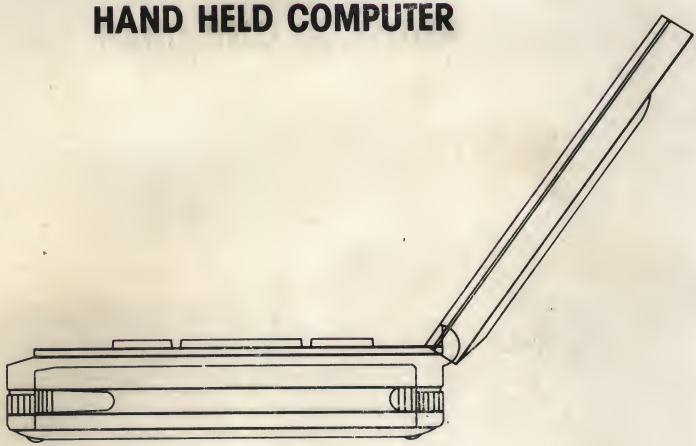
ATARI®
COMPUTER

Portfolio™

HAND HELD COMPUTER



Owner's Manual

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Portfolio

PORTABLE
PC

Owner's Manual

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CHAPTER 1
GETTING STARTED

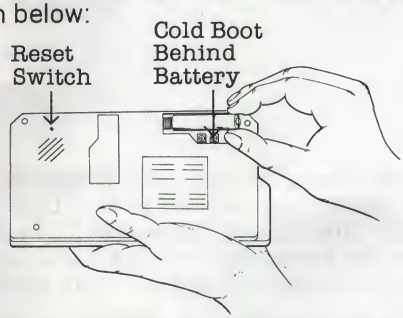
INTRODUCTION

Carefully unpack the Atari Portfolio and check that you have the following:

- The Atari Portfolio
- Three AA batteries
- The Portfolio Owner's Manual
- The Portfolio Quick Reference Guide
- Atari Corporation Portfolio End User Licensing Agreement
- Atari Warranty Card

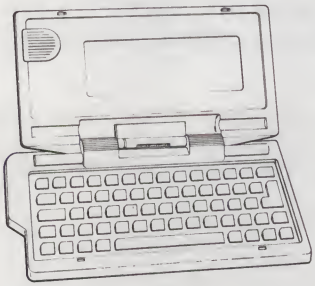
The Atari Portfolio runs on three AA (also known as LR6, HP7, R6, R6B, R6S, UM3, Mignon and MN1500) size batteries. It is recommended that alkaline batteries are used.

To fit the batteries, leave the Portfolio closed, turn it over and place it on a flat surface. Remove the battery compartment cover and insert the three batteries as shown below:



Replace the battery compartment cover firmly and turn the Portfolio over. To open the Portfolio, slide the catch to the right on the front edge.

When open, the Portfolio's screen is at the top and the keyboard at the bottom:



The screen is a super-twist LCD displaying 8 lines of 40 columns each. The screen can also act as a 40 by 8 'window' onto a larger, standard PC screen of 80 by 25. This allows you to move the window around the larger PC screen. Full details of this mode of operation are given in the **Chapter 8**.

SWITCHING ON

Inserting the batteries for the first time switches on the Portfolio. Thereafter, press any key to switch on the Portfolio. When the Atari Portfolio is first switched on (which is known as a cold start), the screen shows the copyright notice:

Copyright (c) 1989 DIP
Distributed Information Processing Ltd
Surrey Research Park, Guildford, England
All rights reserved
Tous droits réservés
Alle Rechte vorbehalten

BIOS: X.XXX Operating System: X.XXX

Press any key and the screen prompts you to select which keyboard the Portfolio is to use: English, French or German:

Keyboard - Clavier - Tastatur
Type **[E]** for English (QWERTY)
Taper **[F]** pour Français (AZERTY)
Drücken **[D]** fur Deutsch (QWERTZ)

Press **[E]**, **[F]**, or **[D]** as prompted, depending on the keyboard layout fitted to your Portfolio, and the screen will prompt for the current date and time:

Date: Tue 1-01-1980
New date (mm-dd-yy):

Type today's date in the format shown and press **[RTN]** (the Portfolio key marked **[<┐]**). You are then prompted for the current time:

Time: 0:00:10:00
New time:

Type current time in the format shown and press **[RTN]**. You can enter just the hour and minutes, by typing for example:

12:30 **[RTN]**

The screen then shows the following text:

DIP Operating System 2.11 vX.XXX
Copyright (c) 1989 DIP

followed by the prompt:

c>

You are now in the Operating System, which is described in some detail in **Chapter 2**.

When you switch on the Portfolio for the first time, it is recommended that you configure the following:

- The size of the Portfolio's internal RAM disk
- The CONFIG.SYS file
- THE AUTOEXEC.BAT file

THE INTERNAL RAM DISK

When the Portfolio is switched on for the first time, an area of memory is set aside by the machine for use as an internal RAM drive. This acts like an internal disk drive and is designated drive c:.

This internal RAM drive defaults to one quarter of the total RAM size. However, you are able to change the size of the RAM drive using the DOS command FDISK. FDISK is described in detail in **Chapter 2**.

If you are going to use the Portfolio mainly with the built-in application programs, then you should make the RAM drive bigger, perhaps half of the available RAM. If you are

going to use the Portfolio mainly with external programs which require a lot of RAM in which to run, then you should make the RAM drive smaller.

When the FDISK command is used to re-size the RAM drive, the current contents of the RAM drive will be destroyed. Use this command only when you are sure that there is nothing irreplaceable on the internal disk and memory.

THE CONFIG.SYS AND AUTOEXEC.BAT FILES

Each time the Portfolio is warm-started (after a **[CTRL] [ALT] [DEL]** operation, or a press of the reset button on the bottom of the casing) the contents of the files CONFIG.SYS and AUTOEXEC.BAT are read if they exist and used by the machine.

The CONFIG.SYS file may contain any of the following three items:

FILES=nn	This line sets the number of internal files which the Portfolio may open at any one time. The maximum value of nn is 20, which is also the recommended value.
BUFFERS=nn	This line sets the size of the disk cache buffer. The maximum value of nn is 64, but the recommended value is 32.
COUNTRY=nnn	This line sets the way dates are entered in the Diary and on the command line, according to the country of use. It also defines the way country specific information is displayed. The country can be set to any number in the following list:

Country	nnn	Date Format
Australia	061	dd/mm/yy
Belgium	032	dd/mm/yy
Denmark	045	dd/mm/yy
Finland	358	dd/mm/yy
France	033	dd/mm/yy
Germany	049	dd/mm/yy
Italy	039	dd/mm/yy
Netherlands	031	dd/mm/yy
Norway	047	dd/mm/yy
Spain	034	dd/mm/yy
Sweden	046	yy/mm/dd
Switzerland	041	dd/mm/yy
UK	044	dd/mm/yy
US	001	mm/dd/yy

After a new CONFIG.SYS file has been created, TO MAKE THE NEW SETTINGS COME INTO EFFECT YOU MUST WARM START THE PORTFOLIO. Either press the keys **[CTRL]**, **[ALT]**, and **[DEL]** at the same time, or press the reset button on the base of the casing.

After a warm start, the Portfolio also looks on the internal RAM drive at its root directory for a file called AUTOEXEC.BAT. If found, this batch file is automatically executed. The file can contain any of the usual batch commands described in **Chapter 2**. If for example, you wish to clear the screen, and then enter the built in software applications automatically, enter the following lines in the AUTOEXEC.BAT file:

```
@ECHO OFF
CLS
APP
```

You can create the AUTOEXEC.BAT and CONFIG.SYS files using the built-in editor.

If a memory card is present in drives A: or B: and AUTOEXEC.BAT exists on either one, it will be executed instead of the one on drive C:

REBOOTING PORTFOLIO

If an application causes Portfolio to lock up, perform a warm boot to restart DOS. Your data in Drive C will be preserved. Press **[CTRL][ALT][DEL]** for a warm boot. Or, if the keyboard does not respond, warm boot Portfolio through the reset switch on the bottom. (See the drawing on Page 1.) First close Portfolio. Then gently push a small pointed object into the bottom reset switch.

If a warm boot doesn't clear up the problem, you will need to cold boot Portfolio. A cold boot causes Portfolio to lose all data (except in Memory Cards). First, close Portfolio. Remove the battery compartment cover and the first battery. Behind the first battery is the cold boot reset switch. (See the drawing on Page 1.) Gently press a small pointed object into the bottom of the cold boot reset switch recess.

THE PORTFOLIO KEYBOARD

The keyboard has the usual QWERTY layout with the digits 0 to 9 above, two **[SHIFT]** keys, one **[CTRL]** key and an **[ALT]** key - just like an ordinary desk-top PC.

The Portfolio has three keys which do not appear on a normal PC. These are the Atari key, marked ⅄ , the function **[FN]** key, and the **[LOCK]** key.

The ⅄ Key

The ⅄ key is a multi function key used to access Portfolio specific functions. It will invoke the internal applications in conjunction with a hotkey as detailed later in this chapter and then in more detail in **Chapter 3**.

It also can alter the display contrast according to the ambient lighting conditions. Hold down the ⅄ key and press the **[Up Arrow]** cursor key to increase the screen contrast or the **[Down Arrow]** cursor key to reduce the screen contrast.

It will also simulate the **[F1]** key, simply by pressing and releasing it. (See the following paragraph.)

The [FN] Key

A normal PC has its function keys in a block at the left of the main keyboard or in a row along the top of the keyboard. On the Portfolio, the functions are combined with the numeric keys on the top row of keys. To access the function keys, just hold down the **[FN]** key and press the number of the function key you require (**[FN] [0]** gives F10). The function key also provides a number of other features detailed later in this section.

The LOCK Key

This is used in conjunction with other keys to lock the keyboard into capitals (CAPS LOCK)**???**, Numeric keypad (NUM LOCK) or Scroll lock. If used by itself, it displays the current date/time and which of the keyboard locks are active. All locks can be cleared by pressing **[LOCK]** with **[ESC]**.

The Cursor Keys

The cursor keys are positioned at the bottom right corner of the keyboard. The cursor keys also have other uses which are described below.

Other keys which are found on an ordinary PC keyboard are available by pressing two Portfolio keys together:

Ordinary PC	Portfolio
[HOME]	[FN] [Left Arrow]
[PG UP]	[FN] [Up Arrow]
[PG DN]	[FN] [Down Arrow]
[END]	[FN] [Right Arrow]
[CTRL], [BREAK]	[FN] [B] or [CRL] [FN] [S]
[CAPS LOCK]	[SHIFT] [LOCK] or [FN] [C]
[NUM LOCK]	⅄ [LOCK] or FN] [N]
[SCROLL LOCK]	[FN] [LOCK] or [FN] [S]
[INSERT/OVERWRITE]	[FN] [DEL]
[CTRL NUMLOCK]	[FN] [Q] or [CTRL] [FN] [N]
[PRINT SCREEN]	[FN] [P] or [CTRL] [FN] [P]
[£]	[ALT] [{]
[~]	[ALT] [}]
[']	[ALT] [']
ASCII CODE [ALT]+No	[NUM LOCK], then [ALT] + [nnn] on numeric keypad (NB: [ALT] must be released to generate code.)

The Numeric Keypad

The Portfolio also has a 'buried' numeric keypad, on the alphabetic keys at the right of the keyboard. The legends of the buried keypad are at the top right corner of the keys.

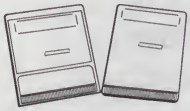
To access the keypad, set NUM LOCK as above. You can then use the digits 0 to 9 and the operators +, *, -, / and the point (.).

To show the keyboard is in NUMLOCK, the cursor changes from a flashing block to an underline character.

MEMORY CARDS

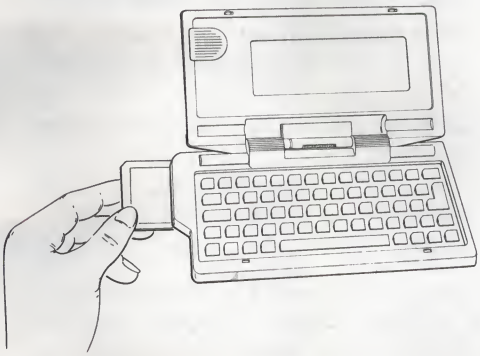
Most PC's use disks to store data. The Portfolio uses credit-card sized memory cards. The cards are available with various storage capacities.

Portfolio's low battery message applies only to the computer's batteries, not the Memory Card's battery.



The cards slot into the card drive at the left of the Portfolio. The card should be kept free from dirt and moisture at all times.

The cards act in exactly the same way as disks and can be written to in exactly the same way as a removable PC disk! Their advantages are in their compact size and robust construction.



Each memory card has a battery with a one year life, and has a write-protect switch to allow your data to be protected from accidental erasure.

Always read the protective instructions supplied with each memory card.

THE APPLICATIONS MENU

Built into the Portfolio are a number of applications programs as follows:

Address Book	Stores names, addresses and phone numbers; auto-dials numbers
Calculator	With 5 memories, editable calculation tape, square root, percentages, various numeric formats and printer output
Diary	Calendar and Diary with alarms on any entry, repeating daily, week-daily, weekly, monthly or annually
Editor	Text Editor with variable margins, text search, find and replace, word wrap On/Off
Setup	Sets up various operating modes and facilities
Worksheet	Lotus 1-2-3 file compatible spreadsheet 127 columns by 255 rows.

Any of the applications can be started in a number of ways. These are described in detail in **Chapter 3**, but the two main methods of starting the applications are as follows:

1. Hold down the ⅄ key and press **[Z]**. The main applications menu is displayed and you can select an application as follows:

a) Move the cursor (the flashing block) to the first letter of any of the application names by pressing the cursor keys. These are the arrow keys at the bottom right of the keyboard. When the cursor is over the start of the application you want to use, press **[RTN]**.

b) Press the first letter of the name of the application. For example, to select the Calculator, press **[C]** - there is no need to press **[RTN]**.

2. To enter an application program directly, hold down the ⅄ key and press the initial letter of the application you want to use; **[C]** for Calculator, **[W]** for Worksheet and so on.

When you exit from the application by pressing **[ESC]** you are always returned to the place from which you called the application.

SWITCHING OFF

The Portfolio can be switched off in either of two ways:

1. Hold down **[FN]** and press **[O]**, releasing **[O]** before **[FN]**
2. At DOS, type:

    OFF **[RTN]**

Alternatively, to conserve battery power, if the Portfolio has not been used for more than a couple of minutes, it automatically switches off. Whatever you were doing at the time is still retained in memory - even if you were half way through typing a command and briefly called away. Press any key to switch back on.

BATTERY LIFE

The Portfolio's battery life is dependent upon the amount and type of usage. We recommend that you use alkaline type batteries for a longer operating life. The Portfolio consumes a small amount of battery power even when switched off, because the Portfolio's memory, containing your files, must be maintained at all times. It is wise to always carry a spare set of batteries.

The Low Battery Message

When the batteries no longer have the power to keep the Portfolio running, the screen will display a message saying:

Low Battery

The machine will then automatically switch off ready for you to replace the batteries, which you should do at the earliest opportunity. At this point you should not switch on the Portfolio as this will only use more battery power.

After the low battery message, you have several days in which the batteries can safely be replaced. After this time, the data in the Portfolio's internal disk and memory may be lost.

Replacing the Batteries

After the Portfolio shows a low battery message and switches off, you should replace the batteries at the first opportunity. To replace the batteries, DO NOT SWITCH ON THE PORTFOLIO. Leave the Portfolio in the OFF state, remove the old batteries and replace them with new alkaline batteries immediately. Ensure that the batteries are inserted correctly.

At this point, if the screen displays the message:

Abort, Retry, Ignore?

indicating that a disk access was in progress, press **[R]** to retry and all data will be retained as before.

USING DOS

The Atari Portfolio uses an operating system program, referred to in this manual as DOS (the DIP operating system), which is just like the DOS on a desk-top PC. It controls the machine's keyboard, screen, memory cards and so on.

DOS not only lets your hardware and software run smoothly together, it also provides a number of commands which you can use to make the most efficient use of the Portfolio. The commands enable you to carry out housekeeping tasks on your memory cards, such as renaming, copying and deleting files, and automating tasks to suit your particular needs by using batch files, which will execute more than one command.

Drives

Your files and programs may be stored on any of the available drives. These include the internal drive and any memory card drives fitted to your Portfolio.

The amount of memory set aside for the RAM drive may be set by using the DOS FDISK command, explained later in **Chapter 2**. The internal RAM drive is given the identifier C:

When the Portfolio is used for the first time and after a cold-start (when the battery is removed or after using the FDISK command), the operating system must start up with a default drive. This is initially the internal RAM drive. There is always a 'current drive' which may be any of the available drives. Any disk operations (such as reading a directory, reading a file or writing to a file), which do not specify a drive, will be performed on the current drive.

The external card drive names are A: and B:. A drive name always consists of a letter and a colon. For example, if the current drive is C:, to change to A: type:

a: **[RTN]**

Filenames

The applications create files in which to store information in the Portfolio's memory. DOS filenames consist of two parts; a name and an extension. The two parts are separated by a dot (.). The name may contain up to eight alphanumeric characters. The extension may contain up to three alphanumeric characters. DOS makes no distinction between upper and lower case letters. Here are some example filenames:

SALES.WKS
HOME.ADR
RESIGN.TXT
WEEKDAYS.DRY
COMMAND.COM
AUTOEXEC.BAT

Filenames may consist of a name without an extension. For example:

JUNKTEXT
SALEFIGS

There are a number of letter combinations which DOS will not let you use as filenames. These it has assigned for its own use. The illegal filenames are:

PRN
AUX
NUL
COM1
CON
LPT1
CLOCK$

CHAPTER 2
THE OPERATING SYSTEM

INTRODUCTION

The operating system is the program that controls the operation of the machine and performs internal housekeeping tasks.

The operating system, referred to in this manual as DOS, (DIP Operating System) provides the link between your applications programs and the hardware of the computer. DOS, the operating system supplied with the Portfolio is very similar to the industry-standard MS-DOS.

Technical Note: If you are familiar with the way MS-DOS or PC-DOS works, you will know about internal and external commands. The Portfolio works in a much simpler way; all the commands listed here are internal commands. No external commands are used in the Portfolio.

USING MEMORY CARDS

Credit card sized memory cards are used for data storage on the Portfolio in the same way as a desk-bound PC uses floppy disks. A memory card can have up to 128K of storage capacity and can be removed, formatted, write protected and otherwise handled just like an ordinary floppy disk. The drives into which they fit are called card drives.

The cards and the drives have no moving parts, they are sturdy and are very small and convenient. They each have their own storage case.

When you use a memory card for the first time, it must be formatted just like a normal floppy disk. See the section

When using DOS commands which operate on any part of the directory tree, you must specify particular directories as follows. For example, to list all of the files in the sub-directory HOME which itself is in the directory LETTERS, you would type:

dir \letters\home*.* **[RTN]**

The backslash character, '\', is used to separate directory names from one another and the directory names from the filename.

Any of the directories and sub-directories may be used to store data or programs. The benefit of using a directory tree such as the one above is that files of a particular *type* may be grouped together. You might store all of your letters concerned with home matters in the directory \letters\home, while all business letters are stored in \letters\work.

The Current Directory

Just as there is always a current drive, there is always a current directory on that drive. The current directory may be the root directory or any of the directories in the directory tree.

Two DOS commands exist to enable you to create and delete directories and sub-directories, these are MD (Make Directory) and RD (Remove Directory). These, and the other DOS commands, are explained in detail later in this chapter.

PATHS AND PATHNAMES

A path is a sequence of directory names followed by a filename, each separated from the previous one by a backslash character.

A path may also be preceded by a drive specifier, separated from the rest of the path by a backslash.

If a pathname begins with a backslash, DOS assumes it refers to a path through the directory tree, starting at the root directory level. If the pathname does not start with a backslash, DOS assumes the path to start at the level of the current directory.

Here are some example pathnames:

\	the root directory
\autoexec.bat	a file in the root directory
\sales\figures	the sub-directory called FIGURES in the directory called SALES at root level
\sales\vat4.wks	a file in the directory called SALES at root level
figures\vat.wks	a file in the sub-directory called figures which is below the current directory

FUNCTION KEYS

When you have typed a DOS command, if the same, or a similar, command has to be typed next, using the function keys and a number of other keys saves you from having to retype the whole command.

When you type a DOS command, a copy of your input is stored in a part of memory called the template. After you have typed a command and pressed **[RTN]**, the following apply:

Key Press	Effect
[F1]	Copies each character from the template to the command line. Subsequent presses of **[F1]** copies subsequent characters from the template onto the command line, until the whole template has been copied.
[F2] x	Copies characters up to the specified character (shown here by **x**) from the template onto the command line.
[F3]	Copies all remaining characters not yet copied from the template, onto the command line.
[F4] x	Skips over (without copying) all characters up to the specified character (**x**) then use **[F3]**.
[F5]	Copies a new command line into the template (before **[RTN]** is pressed) but does not execute the command line
[F6]	Places a CONTROL Z character in the new template
[DEL]	Erases (without copying) subsequent characters in the template
[ESC]	Discards the current command line
[INS]	Allows characters to be inserted in the template.

Other Control Characters

The following control characters are also recognised:

[CTRL] [C] aborts current process and returns to prompt

[CTRL] [S] pause output to screen; press any key to recommence output.

DOS COMMANDS AND RECOGNIZED BATCH FILE WORDS

The following commands are all internal (i.e. they are not listed with a Directory command) and are listed in alphabetical order:

APP	Portfolio specific command to run applications
BREAK	DOS break mechanism toggle
CD (CHDIR)	Change to another directory on a drive
CHKDSK	Disk or memory card status check
CLS	Clear the screen
COPY	Make a copy of a file
DATE	Set a new date in the internal clock/calendar
DEL	Delete one or more files from a drive
DIR	Display the directory of a drive
DO	Part of the FOR command
ECHO	Switch on/off echoing to screen of batch commands
ERRORLEVEL	Batch file command tests for software exit codes
EXIST	Part of the IF command in batch files
FDISK	Set the size of the internal RAM drive
FOR	Looping structure for repetitions in batch files
FORMAT	Format a memory card
GOTO	Batch file structure command
HELP	List all available DOS commands and batch file words

IF	Batch file conditional structure
IN	Part of the FOR command in batch files
LABEL	Create or modify a disk volume label
MD (MKDIR)	Make a new directory on a drive
NOT	Part of the IF command in batch files
OFF	Switch the Pocket PC to standby mode
PAUSE	Batch command, pauses file execution
PATH	Set or display the DOS program search path
PROMPT	Set the DOS prompt for your Pocket PC
RD (RMDIR)	Remove an empty directory from a drive
REM	Remark prefix in batch files
REN	Rename a file on a drive
RUN	Run DOS software from memory card
SET	Set or display the environment settings
SHIFT	Access extended batch file parameters
TIME	Set a new time in the internal clock/calendar
TYPE	Display the contents of a text file on the screen
VER	Display the DOS version number on the screen
VERIFY	Disk write verify toggle
VOL	Display the volume name assigned to a drive

The commands in the following descriptions are often accompanied by the names of various directories,

memory card drives and so on. They are called the command parameters. The parameters may be typed in either upper or lower case letters. The parameters are shown in the following forms:

[d]	a drive; i.e. a letter denoting a memory card drive or the internal RAM disk and followed by a colon. For example, a:, b:, c:
[dir]	a directory on a memory card or the internal disk
[fname]	a filename consisting of a name and an extension, separated by a period. For example, figures.wks
[pathname]	a combination of drive, directory and filename which specifies a particular drive, directory or file. If the drive is omitted from a pathname, the default drive is assumed; if the directory is omitted from a pathname, the current directory is assumed
(/P)	any parameter within parentheses is an optional parameter, often preceded by a slash. For example the /P parameter used with the TYPE and DIR commands
[(/W)(/A)]	items in square brackets are a range of options, of which only one may be used at a time.

A full command and its parameters typed in at the DOS prompt is known as a DOS command line.

BATCH COMMANDS

DOS can also run batch files. Batch files are made up from a number of DOS commands and can be run like any other program. They help to automate a whole series of often used DOS commands.

Batch files always have the file extension .BAT.

Any of the DOS commands described in this chapter can be used in batch files. The following DOS commands and reserved words are most useful within batch files:

ECHO	REM
EXIST	SHIFT
ERRORLEVEL	DO
FOR	IN
GOTO	NOT
IF	@ <COMMAND>
PAUSE	

See the section on **Batch Files** later in this chapter for further information.

THE DOS COMMANDS

Portfolio accepts DOS commands either as all upper case, all lower case, or a combination of each.

APP

SYNTAX: APP [(/A)(/C)(/D)(/E)(/S)(/W)]

The APP command takes you to the main applications menu, from which you can choose an application as usual. When any of the slash switches are used, the application indicated is run automatically. For example, the command:

APP /w **[RTN]**

takes you straight into the Worksheet.

BREAK

SYNTAX: BREAK
BREAK ON
BREAK OFF

The BREAK command enables the system to check for the Break key **[FN]** and **[B]** more frequently. The Break key causes the Portfolio to terminate the current activity.

When BREAK is OFF, pressing **[FN]** and **[B]** together will only terminate the current activity during output to the screen or input from the keyboard.

When BREAK is ON, pressing **[FN]** and **[B]** together will also terminate during certain disk operations.

The BREAK command on its own reports the current BREAK setting. BREAK ON and BREAK OFF set the BREAK status ON and OFF respectively.

CD (Synonym: CHDIR)

SYNTAX: CD
CD [dir]

When CD is used without any parameter, the current drive and directory are shown on the screen. For example:

CD **[RTN]**

might display

a:\sales\figures

When CD is used with a directory name, that directory is made the current directory on the current drive. For example:

CD \

changes the current directory to the root directory.

Note that if the directory parameter starts with a backslash (\) then the named directory path will start at the root directory. Otherwise the named directory path will start at the current directory level.

Using CD followed by two dots (CD..) moves up one level to the parent directory.

Typing CD followed by the directory name moves down to that directory. For example, typing:

CD STAFF **[RTN]**

from within the directory \sales will move to \sales\staff

Note: So that you always know which directory is current, just by looking at the screen, you can use the PROMPT command to show the current directory as the DOS prompt. (See the **PROMPT** command in this chapter for further details.)

CHKDSK

SYNTAX: CHKDSK ([d]) (/p)

The CHKDSK command performs a general test on either the current drive or the drive indicated. For example, with a memory card fitted in drive a:, the command:

CHKDSK a: **[RTN]**

might show

Vol home_disk created 4-04-89 12:37
62592 bytes total disk capacity
1024 bytes in 2 directories
4224 bytes in 6 user files
57344 bytes available on disk
126976 bytes total memory
81936 bytes free

The /p option will display the information one page at a time.

CLS

Syntax: CLS

Clears the display and returns the cursor to the top left corner of the screen. If the display window onto the larger, 80 by 25 screen has been moved from the home position (line 1; column 1) the CLS command returns the window to the home position.

COPY

SYNTAX: COPY [pathname] [pathname]

Copies one or more files from one drive and/or directory to another. The first pathname after the COPY command specifies the source - the file or files which will be copied. The last pathname specifies the destination - the place to which the files will be copied.

For example:

COPY letter.txt memo.txt

creates a copy of the file letter.txt, with the name memo.txt

If the drive is omitted from either the source or the destination pathname, the default drive is assumed. Similarly, if no directory is specified then the default directory is assumed.

If a file exists of the same name as the target then this is overwritten without any warning.

The wildcard characters * and ? may be used as follows. The command:

COPY a:\??.* **[RTN]**

copies all files with only one or two characters in their name, and with any extension, from the root directory of drive a: to the current drive and directory.

Alternatively:

COPY *.wks \data **[RTN]**

copies all files in the current sub-directory with the extension .wks to the subdirectory data on the root of the current drive, without having to specify the filenames in full.

The source files used in any copy procedure are always left unchanged, the copy process does as the name suggests, it makes new copies of the source files.

COPY may also be used with CON to create a file. CON is the console device (described later in this chapter) and enables you to type in more than one line into a file. To determine when the input has finished, hold the **[CTRL]** key down and press **[Z]**. This inserts a CTRL Z, which tells DOS that this is the end of the file.

For example, to create your AUTOEXEC.BAT file with the commands CLS (clear screen), set the PATH to the system directory, and set the prompt to display the current directory, type:

copy con autoexec.bat **[RTN]**
cls **[RTN]**
path=c:\system **[RTN]**
prompt pg **[RTN]**
[CTRL] [Z] [RTN]

DATE

SYNTAX: DATE (mm-dd-yy)
DATE

Changes the Portfolio's internally stored date. The date may be specified after the DATE command on the command line, separated from the command by a space. The date should take the format specified by the COUNTRY setting in your CONFIG.SYS file, (described in **Chapter 1**).

The following assumes you either have not set the COUNTRY code, or the COUNTRY code has been set to the USA.

If you type DATE alone, followed by **[RTN]**, DOS responds with the message:

Date: <day> mm-dd-yy
New date (mm-dd-yy):

You may now type the date in the format shown. For example, 26 August 1990 will be entered as 08-26-90. You may use a hyphen to separate the parts of the date or a forward slash (/). If you wish to accept the date offered. Press **[RTN]**.

DEL

SYNTAX: DEL [pathname]
DEL [fname]

Deletes one or more files from the internal RAM drive or a memory card. In the first of the two forms above, the full pathname specifies the drive and directory where the file is located. In the second form shown, the current drive and directory (if any) is assumed.

To delete more than one file at a time, the wildcard characters '*' and '?' may be used. For example, to delete all files with the extension .BAK from the current drive, type:

DEL *.bak **[RTN]**

To delete all the files with the extensions .WKS or WK1, type:

DEL *.WK? **[RTN]**

It is possible to delete all the files on the current drive and in the current directory by typing:

DEL *.* **[RTN]**

To ensure that this major action is really what you want, the Portfolio responds with the question:

Are you sure (Y/N)?

Press **[Y]** to delete the files or **[N]** to abort the command.

The delete command does not delete directories. These must be removed from a drive by using the RD (Remove Directory) command. (See the **RD** command later in this chapter for further details.)

DIR

SYNTAX: DIR [pathname] (/P)(/W)

Displays the list of files stored in a drive or directory. If no drive is specified, the files on the current drive are listed. If no directory is specified, the files in the current directory are listed. Wildcard characters may be used to search the directory for files which match a particular pattern.

To see the list of files stored on drive C: in a directory called SALES, type:

DIR c:\sales **[RTN]**

The screen might then show something like the following:

```
Volume in drive C has no label
Directory of C:\SALES

                <DIR>          1-01-88      11:15a
..              <DIR>          1-01-88      11:15a
figures1 wk         12800 8-25-88      12:25a
figures2 wk          1280  8-26-88      12:55a
markting adr         1408  2-25-88      10:15p
      5 Files 84131 bytes free
```

The files stored in c:\sales are called figures1.wk1, figures2.wk1 and markting.adr. The files are listed with the filename, file extension, file size in bytes, and the date and time of creation. At the end of the list, the number of files found and the number of bytes free on the specified (or default) drive.

The two directories (.) and (..) are always created by DOS within directories, but not at the root. The (.) directory represents the current directory, and the (..) the parent.

In the following list of examples, the current drive is a: and the current directory is \sales:

Command	Full Pathname Searched
DIR	DIR a:\sales*.*
DIR fig*	DIR a:\sales\fig*.*
DIR *.wk?	DIR a:\sales*.WK?
DIR ..	DIR a:*.*

The last of these is a shortform for searching the parent directory to the current directory; that is, the directory above the current directory in the directory tree.

This shortform can also be used together with a backslash. For example, the command:

dir ..\.. **[RTN]**

would read the directory of files in the parent directory of the parent directory of the current directory (two levels up through the directory tree).

Two switches are available for use with the DIR command. They operate as follows:

/P List files one page at a time. When the screen has filled, you may read the partial list at your leisure; press any key to see the next seven lines of the list (if any). Note that the screen mode setting, set from within the Setup option in the Applications menu, will affect the use of this switch, see **Chapter 8** for further details.

/W List files in wide mode. Files are shown widthways across the screen and only the filenames and extensions are listed, without the other file information.

DO

SYNTAX: for %a in (*.bat) DO type %a

The DO reserved word can only be used as part of the FOR command.

See the **FOR** command and the **Batch Files** section later in this chapter for more information.

ECHO

SYNTAX: ECHO OFF
ECHO ON
ECHO line of text for display

The ECHO command has two uses:

1. Toggle the state of the command echo during batch file execution
2. Display a line of text on the screen as part of a batch file.

1. Command ECHO State

When a batch file is executed, all of its component commands are echoed to the screen before execution. If the first line of the batch file contains the command ECHO OFF, all further commands in the file are executed without being echoed to the screen. If the ECHO OFF is preceded by the @ character then that line is not shown on the screen.

The ECHO line state is automatically switched back on when a batch file completes its execution.

2. Display Text

To display a line of text on screen during the execution of a batch file, include the line:

ECHO your line of text

The screen would show:

your line of text

See also the **Batch Files** section later in this chapter.

ERRORLEVEL

SYNTAX: IF ERRORLEVEL <n> <command>

The ERRORLEVEL reserved word is used only as part of the IF command.

ERRORLEVEL sets the condition in the IF statement to true if the return value from the previous external program is greater than or equal to <n>.

See the **IF** command and the **Batch Files** section later in this chapter for more information.

EXIST

SYNTAX: IF EXIST [fname] <command>

The EXIST reserved word is only used in conjunction with the IF command.

If the filename given by fname exists, then the command is executed.

See also the **Batch Files** section later in this chapter.

FDISK

SYNTAX: FDISK [n]

Sets the size of the internal RAM drive, c:, to size n in Kilobytes specified. The minimum value allowed is 8K bytes and the maximum is the maximum available internal memory minus an amount required by the applications and DOS. This maximum will be displayed if you try and set too big a disk size.

For example, the command:

FDISK 16 **[RTN]**

sets the size of the RAM drive to 16K bytes.

Use of this command also performs a cold start. All files currently stored in the Portfolio's memory will be deleted in order that the RAM drive may be re-sized. This command should be used with care.

FOR

SYNTAX: FOR %%<a> in (<set>,<set> ...) do <command>

Where <a> is any letter; <set> is a (path and/or) filename which may include wildcards and <command> is any valid DOS command.

Used as a structural feature of batch files or for repeating a DOS command for a number of files. See the **Batch Files** section later in this chapter for further details.

FORMAT

SYNTAX: FORMAT [d] (/V)

Formats a memory card ready to receive new data. The process of formatting deletes all existing files and directories and should be used with care.

The allowed drive specifiers are a: and, if an external card drive has been fitted, b:.

The /V switch allows you to specify a new volume label to be assigned to the drive after formatting.

GOTO

SYNTAX: GOTO label

Used to jump to a label in a batch file. The label must be present in the current batch file and begin with a colon.

See the **Batch Files** section later in this chapter for further details.

HELP

SYNTAX: HELP

HELP lists the DOS commands and batch file words that can be used on the Portfolio, as contained in this list.

IF

SYNTAX: IF (NOT) <condition> <command>

See the **Batch Files** section later in this chapter for further details.

IF is used in batch files to carry out a command dependent on a condition. If the condition is true, the command is executed, otherwise the command is ignored. The condition may be one of the following:

EXIST <fname>

This is true if any files specified by <fname> exist. <fname> may contain the wildcard characters '*' or '?'.

ERRORLEVEL <number>

This is true only if the previous external command had an exit code of <number> or higher.

<string1> == <string2>

This is true if string1 is equal to string2. The strings must contain no commas or spaces and the case of the strings is significant.

NOT <condition>

This is true if the condition is false.

LABEL

SYNTAX: LABEL [d] (label)

Assigns a volume name to any available memory card or the internal RAM drive. The volume name appears whenever the directory of files is read from a memory device.

When the command is issued, the current label name is displayed (if one exists), which can then be changed to another name of up to 11 characters. Only characters acceptable as filenames are permitted, so spaces for example cannot be used.

Label alone will enable you to delete an existing label if you wish.

MD (Synonym: MKDIR)

SYNTAX: MD [d][path][name]

Makes a new directory with the specified name, and works in a similar way to CD.

If no drive or path are specified, the new directory is made beneath the current directory.

For example, if the current drive and directory are a:\sales, and you want to make a new directory called prices, below sales, you may either type:

MD prices **[RTN]**

or

MD \sales\prices **[RTN]**

If the specified name for the new directory conflicts with an existing directory, an error message is displayed and the command will fail. Try again with a different directory name.

OFF

SYNTAX: OFF

Sets the Portfolio to standby mode. The screen is cleared and the Portfolio is switched off. This helps conserve battery power. Press any key to switch the Portfolio on again.

The contents of the internal RAM drive, C:, is not affected by this command. When you switch the Portfolio on again,

drive C: contains all of the same files as when the computer was switched off.

Note also that the Portfolio will switch to standby mode automatically if unused for more than approximately two minutes.

You can also turn the Portfolio off at any time by pressing **[FN]** with **[O]**, releasing **[O]** first.

PATH

SYNTAX: PATH [pathname](;[pathname]...)
PATH

Sets the command search path for DOS. The search path is the directories which DOS searches for programs or batch files. Paths should be separated by semi-colons on the command line. For example, if you type:

PATH c:\;c:\exec;a:\ **[RTN]**

Then when you type a command which runs an executable file, for example TEST, DOS will search the root directory on drive C:; the directory called exec on drive C: and the root directory on drive A: for the files TEST.COM, TEST.EXE and TEST.BAT in that order, executing the first matching file found.

When the search path has been set using this command, the setting remains in force until you enter a new search path. The second form of the command shown above, PATH with no parameter, displays the current path setting on the screen.

To reset the path command so that only the current working directory is searched for executable files, type:

PATH ; **[RTN]**

PAUSE

SYNTAX: PAUSE

The PAUSE command allows a pause in execution of a batch file. A message:

Strike a key when ready ...

is displayed on the screen, and the batch file will only continue processing after a key has been pressed.

See the **Batch Files** section later in this chapter for further details.

PROMPT

SYNTAX: PROMPT
PROMPT [text]

Sets the system prompt which is displayed at the start of the command line in DOS. The prompt defaults to just the name of the current drive and a '>' character. The '>' just divides the drive name from your command line input. For example, when you switch on the Portfolio for the first time, the prompt will be set to c>. The first form of the command as shown above resets the prompt to the drive name and the '>' character.

The second form of the command as shown above allows plain ASCII text and/or a number of special prompts to be set. The following list shows the characters which set the special prompts. Each must be preceded in the command line by a '$' character:

CHARACTER	PROMPT
$	The '$' character
d	The current date
t	The current time
p	The current directory on the current drive
v	The DOS version number
n	The current drive
g	The '>' character
l	The '<' character
b	The 'l' character
_ (underscore)	A carriage return/line feed
s	A space character (leading only)
h	A backspace character

Using an invalid $ character sets no prompt.

Here are a few examples of using the PROMPT command which uses some of the special characters above and the prompts they produce. Drive and directory names are always shown by DOS in lower case letters. All of the examples assume the current drive is c: and the current directory is \sales:

COMMAND	PROMPT
PROMPT pg	c:\sales>
PROMPT thhhhhpg	10:30:c:\sales>
PROMPT Date = dg	Date = Tue 10-10-89>

RD (Synonym: RMDIR)

SYNTAX: RD [d][dir]

Removes the specified directory from the specified drive (if any). The specified directory must be empty before you attempt to remove it. The directory you are trying to remove must not be current when you issue the command to remove that directory.

If the specified directory is not empty, a 'Directory not found or not empty' error message is displayed. To delete the directory you should first delete any files from the directory and then use RD again.

REM

SYNTAX: REM <remark>

Used to insert a non-executable remark into a batch file. For example, a batch file might read:

```
REM this batch file deletes all backup files
REM
del \sales\*.bak
```

The lines which start with REM are remarks and will have no effect on the DEL command.

REN

SYNTAX: REN [d][oldfname] [newfname]

Renames the file on the specified drive with the current name [oldfname] to the name [newfname]. Note that the drive need not be specified as part of the new name. The same drive is assumed as the correct place for the newly

named file. If you specify a different drive for the old and new filenames then an error message is displayed.

If the drive is omitted, the default drive is assumed. Similarly, if no directory is specified then the default directory is assumed.

RUN

SYNTAX: RUN [d][fname]

This command is specific to the Portfolio and is used to run programs designed specifically for the Portfolio directly from memory cards. It is not suitable for normal .COM and .EXE programs. Only use RUN if the instructions supplied with the card software instruct you to do so, and ensure the card remains plugged in while the program is running.

SET

SYNTAX: SET
SET [string1]=[string2]
SET [string1]=

The SET command allows the system to maintain a list of equivalences, where a string (such as PROMPT) can be set to a value or another string. These settings are stored in an area called the environment. They are generally accessed in batch files, by surrounding string1 of the setting with % characters. For example, to add a: to the current path, the line in the batch file would be:

```
set path=%path%;a:
```

SET by itself displays the current settings. For example:

```
COMSPEC=C:\COMMAND.COM
PATH=C:\BIN;C:\SYSTEM;C:\UTIL
PROMPT=$T$H$H$H$H$H$P$G
```

To SET an equivalence, for example the user name, type:

```
SET name=David
```

This might be used in a batch file to welcome the user:

```
@ECHO Hello, %name%, I hope you are well.
```

To remove a setting, type:

```
SET string1=
```

which removes string1 from the environment.

SHIFT

SYNTAX: SHIFT

The SHIFT command allows you to access more than the usual 10 replaceable parameters in batch files.

See the **Batch Files** section later in this chapter for further details.

TIME

SYNTAX: TIME (hh(:mm(:ss)))
TIME

Changes the Portfolio's internally stored time. The time may be specified after the TIME command on the command line, separated from the command by a space.

The time should take the format hh:mm:ss, although not all of the parts of the time need be entered.

If you type TIME alone, followed by **[RTN]**, DOS responds with the message:

> Time: hh:mm:ss.dd (hours:mins:secs:hundredths)
> New time:

You may now type the time in the format shown, using the 24 hour clock. You need only specify the portions that you wish to change. For example, entering :30 will change the minutes only to 30, leaving the hours, seconds and hundredths unchanged.

TYPE

SYNTAX: TYPE [d][fname] /p

Prints the contents of the specified file to the screen.

A switch is available for use with the TYPE command, which operates as follows:

/P Displays the contents one page at a time. When the screen has filled, you may read the screen full of text at your leisure; press any key to see the next seven lines of the file (if any). Note that the screen mode setting, set from within the Setup option in the applications menu, will affect the use of this switch. See **Chapter 8** for further details.

VER

SYNTAX: VER

Prints the DOS version number on the screen:

> DIP Operating System 2.11 v(number)

VERIFY

SYNTAX: VERIFY
VERIFY ON
VERIFY OFF

The VERIFY command is used to ensure that disks have been written to correctly.

VERIFY alone displays the current verify setting.

VERIFY with either ON or OFF makes that the current setting.

VOL

SYNTAX: VOL [d]

Displays the volume label for drive [d], which is the name created by the LABEL command. (See **LABEL** for further information.)

DEVICES

In addition to the drives mentioned above, there are a number of devices and peripherals that can be addressed by the operating system. They are:

CON	The console (See **COPY** command for example.)
NUL	No output (See **Redirection** for example.)
PRN	The current parallel printer port
AUX	The current serial port
LPT1	Same as PRN
COM1	Same as AUX

For example you wish to send the file MY.TXT through the RS232, which is connected to another computer. First set up the RS232 parameters in Setup, then type:

```
copy my.txt aux
```

BATCH FILES

This section gives several examples of batch files.

The following commands are most useful in batch files:

ECHO
FOR
GOTO
IF
PAUSE
REM
SHIFT

IF, NOT and EXIST

The IF command enables another command to be executed if a given condition is true. As an example, if the command "del sales.txt" is typed, and sales.txt doesn't exist, DOS will print "File not found" on the screen. To stop DOS from printing the message, we only want to delete the file if it exists. The following batch file will do just that:

```
if exist sales.txt del sales.txt
```

The condition, "exist sales.txt" is true if the file sales.txt exists in the current directory. If it does exist, then the command "del sales.txt" is executed.

This batch file is much more useful if we write it so that it works for any file not just sales.txt. To do this, we need to use a replaceable parameter which is written in the batch

file as %1. For example, the following batch file deletes a given file only if the file exists:

```
if exist %1 del %1
```

Assuming the batch file is called zap.bat it is invoked by typing:

```
zap sales.txt
```

which performs exactly the same function as the previous batch file.

It is possible to use the IF command to conditionally execute more than one command. To do this, we need to add the use of the GOTO command.GOTO enables us to miss out commands within a batch file. The following batch file will copy a file to drive A: if that file exists, then delete the file from the current sub-directory:

```
if not exist %1 goto lab
copy %1 a:
del %1
:lab
```

Here, the keyword NOT has been used to ensure that no commands are executed if the file given by %1 doesn't exist. If the file does exist, the "goto lab" command is not executed, the file is copied to A: and then deleted from the current sub-directory.

PAUSE

The PAUSE command is used to temporarily halt a batch file until a key is pressed. For example, in the above batch file we could place a PAUSE before the copy command allowing the user time to place a memory card in drive A:

```
if not exist %1 goto lab
pause
copy %1 a:
del %1
:lab
```

When a key is pressed, the batch file continues and copies the file to drive A:. If the batch file has paused, we don't want to copy the file to drive A:, so type **[CTRL] [C]** which will ask if the current batch job should be halfed. Press **[Y]** to exit..

Batch File Parameters; the SHIFT Command

The next batch file renames a file even though the target file exists:

```
if exist %2 del %2
ren %1 %2
```

This batch file takes two parameters, the first is used in place of %1, and the second is used in place of %2. Assuming the batch file is called delren.bat, it can be invoked by typing:

```
delren sales.txt profits.txt
```

This would delete profits.txt if it existed, then rename sales.txt to profits.txt.

Up to 9 parameters are allowed in batch files. These represent the replaceable parameters %1 to %9 with %0 being used for the name of the batch file itself. If more than 9 parameters are needed, then the SHIFT command can be used to shift all the parameters down by one. For example, the following batch file simply echos the batch filename then the first 3 parameters to the screen:

```
echo %0 %1 %2 %3
```

If this batch file is called ec.bat and it is invoked as follows:

```
ec one two three four
```

then

```
ec one two three
```

will appear on the screen. Notice that the fourth parameter "four" is ignored. If a SHIFT command is entered after the ECHO command, and another ECHO command executed, i.e.:

```
echo %0 %1 %2 %3
shift
echo %0 %1 %2 %3
```

then the batch file is invoked with:

```
ec one two three four
```

The screen will show:

```
ec one two three
one two three four
```

After the SHIFT command has been executed %0 becomes the old %1, %1 becomes the old %2 etc up to %8 which becomes the old %9. The original 10th parameter then appears as the new %9.

ECHO and @ECHO

Since all lines in a batch file are echoed to the screen before they are executed, the screen can look cluttered. To stop the echoing of the batch file lines, place the command:

```
echo off
```

at the top of the batch file. The only line in the batch file which now gets echoed to the screen is the ECHO OFF command itself. Even this can be made not to appear, by placing the '@' sign in front of the command:

```
@echo off
```

The @ symbol can be used at the beginning of any line in a batch file to stop the line being echoed to the screen. The most useful time to use it, though, is in front of an ECHO OFF command. This means that no more lines in that batch file, including the echo command, are echoed to the screen.

REM

As batch files get bigger, it is useful to add in some comments to explain how they work. We use the REM statement for this. The above batch file could be written:

```
rem testing the shift command:
echo %0 %1 %2 %3
shift
echo %0 %1 %2 %3
```

REM exists to comment batch files or to disable commands temporarily by preceding them with REM.

ERRORLEVEL

The condition in the IF command can also include the reserved word ERRORLEVEL. This is a way in which external programs can affect batch file execution. When any external program terminates, it sets the ERRORLEVEL value held by DOS to a number between 0 and 255 inclusive. The IF command is used to test this ERRORLEVEL. For example, supposing we run a program called DRIVEB.COM which checks to see if a

second drive is installed. It may return an ERRORLEVEL of 1 if a physical drive B: exists, and an ERRORLEVEL of 0 if it doesn't. We can then write a batch file which tells the user whether they have a second drive in their system:

```
@echo off
driveb
if errorlevel 1 goto exist
echo Drive B: not installed
goto end
:exist
echo Drive B: is installed
:end
```

Using Environment Settings

Another useful feature of the IF command is the ability to use the value of the environment strings initialized using the SET command. Consider the following batch file:

```
@echo Hello there %name%
```

This will print out "Hello there" on the screen, then look in the environment for the string "name". If it finds it, the batch file will print the replacement for "name" in the environment. If it isn't found, the batch file with print nothing further.

So, if the batch file was called hi.bat and the following two commands were typed:

```
set name=Brian
hi
```

then the message:

```
Hello there Brian
```

would appear on the screen.

The IF command can also be used to compare two strings. If the strings are equal, the associated command is executed. For example, the following batch file will only delete the file given as a parameter if a "set name=brian" command has previously been executed:

```
@if "%name%"=="brian" del %1
```

We could also use the replaceable parameters %0 to %9 on either side of the IF comparison.

Repetitive operations can be performed in batch files by using the FOR command. For example, if we have several text files and we want to type them all out one after the other, we may create the following batch file:

```
@for %%a in (*.txt) do type %%a
```

This performs an internal directory of *.txt and for each file found, it sets %%a to the filename. For each file found the type command is executed, with the filename. The letter after the two percent signs can be any letter of the alphabet.

Calling One Batch File from Another

Finally, it is possible to execute another batch file from within a batch file simply by including the second batch filename into the first. Assuming a batch file called edit.bat exists, and another called ed.bat. ed.bat may look like this:

```
@echo off
if exist %1 edit %1
echo File not found
```

If we then type:

```
ed pocket.txt
```

and pocket.txt exists, the batch file edit.bat will be invoked with pocket.txt being used for %1. If pocket.txt doesn't exist, then "File not found" will be printed. Note however, that when edit.bat starts executing, DOS completely forgets about ed.bat. This means that when edit.bat terminates the message "File not found" does NOT appear.

OUTPUT REDIRECTION

DOS commands usually send all their output to the screen. You may however want to have this information sent to a file or printer. All DOS commands which produce any form of output may have that output redirected by using the '>' character.

Redirection is performed as follows:

(any command producing output) > (destination)
(any command producing output) >> (append to destination)

To the left of the '>' character must be a command which produces some output. For example, the DIR command. To the right of the '>' character is the destination for the output of the command on the left side. This may be a filename or a device name.

Redirection to Files

If the destination given with the command can be interpreted as a filename, a file is created with that name and the output stored in that file. If the file exists, the current contents will be replaced with the output. Alternatively the output can be added to the existing contents of a file by using two '>' characters.

For example, to create a file that lists all the directory contents (the output from the DIR command) to a file called FILES.TXT, type:

dir > files.txt **[RTN]**

Alternatively if FILES.TXT already contains text you wish to preserve, type:

dir >> files.txt **[RTN]**

Redirection to a Device

If the destination given with the command can be interpreted as a device name, the output from the command is directed to that device.

For example, to direct the output from the DIR command to the printer, type:

dir > prn **[RTN]**

Suppressing the Output

If the command produces a text message which is not required, this can be suppressed by redirecting the output to NUL.

For example, the COPY command normally prints some information on what has been copied. Especially in a batch file, you may not want this to be displayed. The following command will copy the file AUTOEXEC.BAT to AUTOEXEC.BAK, without displaying a message to the screen:

copy autoexec.bat autoexec.bak >nul

INPUT REDIRECTION

Input redirection is a similar concept to output redirection, and is used to define the source of input that is used by a command. For example, the command DEL *.* (to delete all the files in the current directory), prompts you with:

```
Are you sure (Y/N)
```

and requires you to input either Y (to confirm) or N (to abort). To avoid this keypress, create a file containing just the character Y. This can be done by using output redirection as follows:

```
ECHO Y > yes.txt
```

To delete all the files on a: (the memory card) for example, type:

```
DEL A:*.* < yes.txt
```

CHAPTER 3
USING THE APPLICATIONS

INTRODUCTION

This chapter gives a brief introduction to each of the main Atari Portfolio applications. For a full description of each application, refer to subsequent chapters.

ACCESSING THE APPLICATIONS

There are a number of ways in which the built-in applications can be selected, depending on what the Portfolio is being used for at any one time. To select the Applications menu from DOS, type:

app **[RTN]**

Alternatively hold down the Atari ⅄ key and press **[Z]**.

The screen then shows:

```
 (c) DIP 1989 40860
Address book
Calculator
Diary
Editor
Setup
Worksheet
```

The first time you select the Applications menu, it displays the software version number on the top line of screen. Thereafter it shows the amount of free memory in the Portfolio.

Individual applications can also be selected directly, bypassing this menu. To go straight to an application from

DOS using the APP command, type a slash followed by the letter corresponding to the application you want:

app /a (Address)
app /c (Calculator)
app /d (Diary)
app /e (Editor)
app /s (Setup)
app /w (Worksheet)

This method can also be used from batch files. (See **Chapter 2** for further information on DOS batch files.) This means that by including in your autoexec.bat file, for example, the line:

app /w

the Worksheet is automatically selected whenever the Portfolio is reset.

Alternatively the Atari ⅄ key can be used in a similar manner, with the same first letters, so:

⅄ **[Z]**	accesses the Applications menu
⅄ **[A]**	Address Book
⅄ **[C]**	Calculator
⅄ **[D]**	Diary
⅄ **[E]**	Editor
⅄ **[S]**	Setup
⅄ **[W]**	Worksheet

This technique can be used to access one program from another, with the exception of Setup, which you need to exit before moving to another application.

USING THE WINDOW MECHANISM

Selecting Items

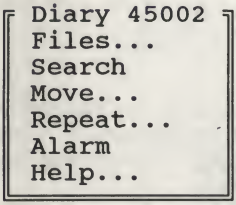
Whenever a menu of options is displayed, such as the Applications menu shown above, there are two methods by which you can select any of the menu items:

1. Move the cursor (the flashing underscore) to the first letter of any of the menu item by pressing the cursor keys. These are the arrow keys at the bottom right of the keyboard. When the cursor is over the start of the item you want, press **[RTN]**.

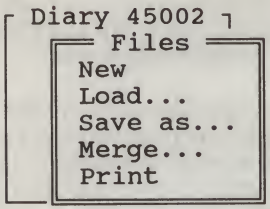
2. Press the first letter of the menu item. For example, in the Applications menu above to select the Calculator, press **[C]** - there is no need to press **[RTN]**. If there is more than one item in the menu with the same first letter, press the first letter repeatedly until the cursor is over the item you want. Then press **[RTN]**.

Successive Menu Layers

In many cases selecting a menu item may bring up another menu. If this is the case, the item in the menu is followed by a row of dots, as shown in this example of a menu from the Diary:

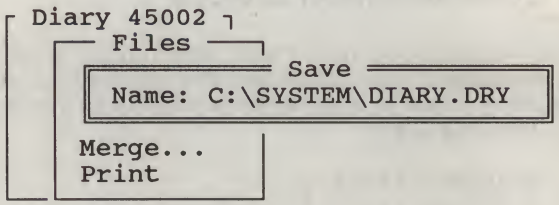


The Files, Move, Repeat and Help options will all bring up another menu. For example, if Files is selected (by pressing **[F]**), another menu is brought up to overlap the current:



At this point you can always revert to the underlying menu by pressing **[ESC]**. Successive pressing of **[ESC]** will take you back layer by layer through the menus, applications and eventually back to DOS.

To continue through the menus, press **[RTN]** on the relevant item or press its first letter. For example, after selecting Save the screen would look like this:



As you can see the current, or 'active' window is always framed by a double line. Other windows which remain on screen in the background have only a single line frame.

Dialog Boxes

Some of the commands available in the Address Book require some form of user input. This might be the name of a file (as shown in the example above), a search string, or a number. Wherever user input is required, a dialog box, often containing a default (suggestion), prompts the user for input.

To accept the default, just press **[RTN]**. Alternatively you may replace the default value with your own input by typing a new value. The default will immediately disappear. If you wish to edit the default, press the **[Right Arrow]** key or **[DEL]** until the cursor is over the part to be edited, then edit the value.

There are several key combinations (detailed below), which enable you to speed up various operations and these can be used while editing the dialog box.

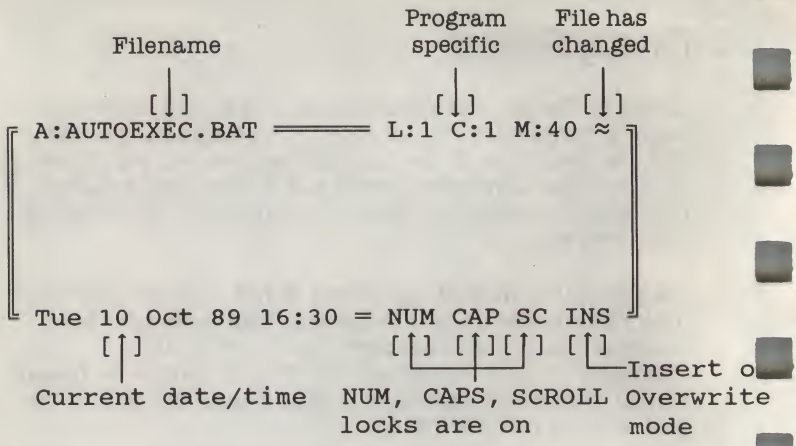
Error Messages

When error messages, such as 'File not found' are generated by some action, they are displayed in windows as described above. Clear the error message by pressing **[ESC]**.

SCREEN LAYOUT

The applications all have certain common features. These include the Help facility, the screen format, the use of windows and some of the function keys.

All of the Portfolio applications are first presented with a one character frame around the screen. Part of the frame area is used to display the current filename, the date and time and other information about the application in use:



The Calculator shows which of the five memories are in use instead of the filename.

The frame can be switched off, giving you more space on the screen in which to display your data, by pressing **[F5]**. This function key acts as a toggle between frame-ON and frame-OFF.

At the top right of the screen frame, in the applications which use files; the Address Book, Diary, Editor and Worksheet, if the current file has been edited in any way since loading, the ≈ character is shown. This indicates that the current file has been changed and may need saving before you leave the current file.

FUNCTION AND CONTROL KEYS

The Portfolio has 10 function keys. These are positioned along the top of the keyboard. To use any of the function keys, hold down the **[FN]** key and press the required number key. For example, to press function key 1, hold down the **[FN]** key and press **[1]**.

The uses of the function keys in all applications are as follows:

[F1] Display the current application main command menu

[F2] Request help

[F3] Operate the Clipboard

[F4] Undo the previous deletion at the current cursor position

[F5] Toggle screen frame on or off

[F6] reserved

[F7] application specific

[F8] application specific

[F9] application specific

[F10] application specific

Note that instead of pressing **[FN]** and **[1]** for **[F1]**, you can alternatively press AND RELEASE the Atari ⅄ key by itself.

The following key combinations allow you to move around files and delete data quickly and easily. The keys work in all applications unless otherwise indicated:

Key Press	Effect
[CTRL] [A]	Go to top of file
[CTRL] [B]	Delete to beginning of line
[CTRL] [D]	Redial (Address Book)
[CTRL] [E]	Delete to end of line
[E]	Exponent (Calculator)
[CTRL] [L]	Delete line
[CTRL] [R]	Replace (Editor, not Worksheet or Calculator)
[CTRL] [S]	Search (Editor, not Worksheet or Calculator)
[CTRL] [U]	Go to previous cursor position
[CTRL] [W]	Delete word right
[CTRL] [Z]	Go to bottom of file
[CTRL] [Backspace]	Delete word left
[CTRL] [Right Arrow]	Move word right
[CTRL] [Left Arrow]	Move word left
[FN] [Left Arrow]	Go to today (Diary)
[FN] [Left Arrow]	Go to Cell A1 (Worksheet)
[FN] [Left Arrow]	Go to beginning of line
[FN] [Right Arrow]	Go to end of line
[TAB]	Move screen right (Worksheet)
[TAB]	Changes sign (Calculator)
[TAB]	Insert new record (Address)
[SPACE]	Clear entry (Calculator)
[RTN]	Edit current appointment (Diary)
[RTN]	Edit contents of current cell (Worksheet)
[RTN]/[ESC]	Toggle between Calendar/Diary Phone/Address Book
[ESC]	Exit menu or current application Clear calculation (Calculator)

Where key combinations are shown (such as **[CTRL] [A]**), hold the **[CTRL]** key down and press **[A]**.

THE APPLICATIONS SOFTWARE

The Address Book

The Portfolio has a built in Address Book which allows you to store hundreds of names, telephone numbers and addresses and, at the touch of a key, auto-dial telephone numbers by holding the Portfolio against the telephone handset.

You can keep any number of Address Book files. For example, you might have one file for your personal names, numbers and addresses and another for your professional contacts.

Each entry, or card, in the Address Book file may contain any number of lines and any number of alternative telephone numbers. The Address Book file may be created from within the Address Book itself, or you can type in all of your names and addresses using the Portfolio's Text Editor. The file can then be loaded into the Address Book.

The Address Book allows you to search for a name, number or address, or just a part of any of the three.

When you have found a particular entry in the file, if your telephone uses the tone dialing system, you can tell the Portfolio to dial the number for you. Just lift the handset of the telephone, hold the mouthpiece against the Portfolio and the number will be dialed for you by the Portfolio's built in tone-dialer.

The Calculator

The Portfolio has a built in Calculator. The Calculator has five memories; operates in general, fixed, scientific and engineering modes and displays an editable 'tape' of all of the calculations made. Other built in functions include optional printer output, a range of percentage tools, factorials, one-key negation, square roots, brackets, powers and a range of numeric formats.

The calculation tape can be edited to allow 'what-if' calculations to be performed on the numbers already entered.

As the Calculator is not a file based application, the Clipboard does not operate when the Calculator is running and there is no filename displayed at the top left of the screen.

The Diary

The Portfolio has a built in Diary. The Diary operates in two modes, Calendar mode and Diary mode. Calendar mode allows you to move through the calendar and select any day's appointments. Diary mode allows you to enter and edit notes and appointments for any time of any day. An alarm may be set for any Diary entry, so important appointments can be brought to your attention by a beeping sound.

Appointments and their alarms may be set to repeat daily, daily excepting Saturday and Sunday (week-daily), weekly, monthly or yearly. For example, you might play squash every Tuesday at 12.30. The weekly alarm facility would allow you to set an alarm reminder once, which would then repeat every week until further notice. The monthly alarm facility might be used to remind you to make a monthly payment on the 24th of the month.

The Diary can be searched for any entry and Diary files can be loaded, saved, merged and printed out.

The Text Editor

The Text Editor is an ASCII text editor and formatter which allows you to type in documents; search for text; replace text; load, save and merge documents and print them out to a printer or to a file.

Word wrap may be set to operate at any line length. Documents are stored in ASCII form, and so may be transferred to other applications, both those resident in the Portfolio and others, quickly and easily.

Setup

The Setup facility allows you to set a number of hardware and software facilities according to your needs and preferences. The options include the display mode, use of sounds, operating language (English, French or German), the type of keyboard, the type of printer attached and the RS-232 port settings.

Another facility within the Setup option is the File Transfer software which allows you to transfer files between a desktop PC and the Portfolio.

The Worksheet

The Portfolio Worksheet is a built-in spreadsheet program which has many of the features of the industry standard spreadsheet, Lotus 1-2-3. The Portfolio Worksheet can load and use .WKS files created in Lotus 1-2-3. Most .WK1 files can also be loaded.

This allows you to create a Worksheet file in Lotus 1-2-3 on your desk-bound PC, transfer the file to the Portfolio and take it with you wherever you go.

The Portfolio Worksheet allows you to work on a spreadsheet, adding data and formulae, just as if you were using your office-based PC. You can load and save files, generate results and reports in a familiar environment.

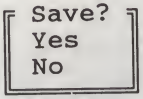
There are a number of differences between the Portfolio Worksheet and Lotus 1-2-3. Refer to **Appendix B** for a full comparison.

COMMON FEATURES

File Handling

Built into each of the file based applications (Address Book, Diary, Editor and Worksheet) is an extensive file management program, which enables you to browse through drives and directories to select the files you want quickly and easily. There are also several safeguard mechanisms to protect you against accidental loss of data.

One example of this safeguard mechanism is if the current file has changed since loading, and **[ESC]** is pressed to exit, the screen shows:



Press **[Y]** to save before quitting, **[N]** to quit without saving or **[ESC]** to revert to the application.

The last file you were working on is automatically reloaded into the application when you next go into it. This information is held in a file PERMDATA.DAT on C:\SYSTEM.

Each application saves files with different extensions. They are:

.ADR Address Book
.DRY Diary
.TXT Editor
.WKS Worksheet

Their file structures are explained in **Appendix A**.

The Files option in each of the applications' main menus is the top item. Press the **[FN][1]** key to view the main command menu and press **[FN][1]** to view the Files menu. The Files menu contains the options New, Load, Save as and Print. There is an additional option Write selected in the Address Book and there is no Merge option in the Worksheet.

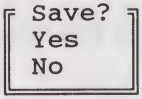
The Files menu looks like this:

Files: New

The New command clears the current contents of the file you are working on, and resets the filename to UNNAMED. with the relevant extension.

If the current contents of the file has not been altered in any way since it was last saved, it is cleared immediately.

However, if the contents have been altered since it was last saved, you are given the chance to re-save. The screen shows:

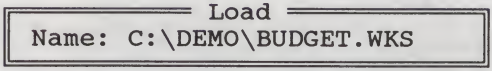


Press **[Y]** to save the current file under its existing name (shown at the top left corner of the screen when the frame is on). Press **[N]** to discard the current file without saving any recent alterations.

Files: Load

The Load command loads in an existing file from any of the available drives.

When the Files menu is displayed, press **[L]** to select Load. The screen then shows the dialog box with the current filename you are working on, for example:



You now have four options:

1. Accept the default file by pressing **[RTN]**
2. Press a cursor key, edit the default filename and press **[RTN]**
3. Enter a new filename and press **[RTN]**
4. View a list of files on any drive and directory.

1. Accept the default file

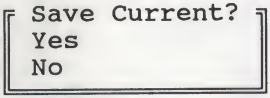
This has the effect of reverting to the last saved version of the file. If you have loaded a file, made some changes but want to start again with the original file, just press **[RTN]**. NO WARNING is given if changes have been made and the file will be loaded.

2. Edit the default filename

You may edit the default filename by using the cursor keys, the **[DEL]** key and the alphanumeric keys.

The default filename may be longer than can be fitted into the window after the 'Name: ' prompt. If you decide to edit the default filename, press the **[Right Arrow]** cursor key and the filename will be scrolled across, allowing you to edit any part of it.

When you have finished editing the default filename, press **[RTN]**. If the current file has changed since it was loaded you are offered the option of saving it before the new file is loaded. The screen would then show:



Press **[Y]** to save the current file under its existing name before loading the new file, **[N]** to discard the current file or **[ESC]** to return to the Load menu.

3. Enter a new filename

Whatever default filename is displayed, you may simply type a new filename. As soon as you start typing the new

filename, the default filename is deleted and your new input is displayed in the load window. When you have entered a filename, press **[RTN]**.

Note: When entering a filename, you do not have to include the file extension unless it is different from the defaults listed above. So if you type, for example:

home **[RTN]**

the Address Book will search for and load the file HOME.ADR, the Diary HOME.DRY, the Editor HOME.TXT and the Worksheet HOME.WKS.

As with the editing the filename, the Save Current menu will be displayed if the current file has changed.

4. View a list of files

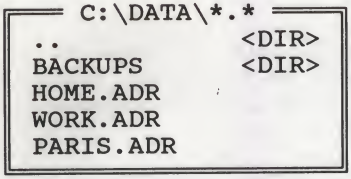
The Load window allows you to examine a list of files on any drive or directory in a similar way to the DOS DIR command. When the default filename is displayed in the Load window, you may type a pathname to be searched, just as if you had used the DIR command.

Here is a list of inputs and their effects:

Input	Effects
: **[RTN]**	View all files in the current directory
* **[RTN]**	All of the files with the default extension on the current drive and in the current directory
*.bat **[RTN]**	All batch files
\data* **[RTN]**	All of the files with the default extension in the directory called data on the current drive
a: **[RTN]**	All of the files on drive a:

See also the **DIR** command in **Chapter 2** of this manual.

Taking the first of the examples shown above, if the current drive and directory is C:\DATA, the Load window might return a list of three files. The screen would show:

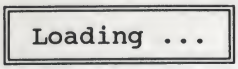


The two dots represent the parent directory C:\ and BACKUPS is a directory underneath DATA.

However many files are found by the Load window, they will be displayed as a list; to view more than the first five filenames (if more than that number are found), move down the list by pressing the **[Down Arrow]** key. To load any of the listed files, position the cursor over the filename and press **[RTN]**, or press the first letter of the file.

If you wish to change the directory select either the two dots to move back to the parent directory, or BACKUPS to move down.

Whichever of the four methods you use to specify a file to be loaded, when you press **[RTN]**, if the file is currently blank, or has not been altered in any way since the contents were last saved, the screen shows:



until the specified file has been successfully loaded.

Files: Save as

The Save command allows you to save a file under either the existing name or another name on any of the available drives.

When you first start an application, and after you use the New command, the default filename used is UNNAMED. When you have typed in some data, you might want to give the file a more meaningful name.

When the Files menu is displayed, press **[S]** to select Save.

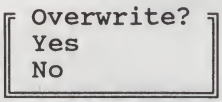
The screen shows:

You may now type a new name for your file. As with Load, and in the same manner, you can either:

1. Accept the default file by pressing **[RTN]**
2. Edit the default filename by using the cursor and **[DEL]** keys
3. Enter a new drive, directory and filename

4. View a list of files by pressing : or *

If an attempt is made to save to a file of a different name, you are asked to confirm that the existing file should be overwritten. The screen would then show:



Press **[Y]** to replace the file on disk with the current file, or **[N]** to return to the Save menu.

Files: Merge

The Merge command allows you to merge another file with the currently loaded file, making a new, combined file. In the Editor the file is merged at the position of the cursor. In the Diary and Address Book the merged file is sorted into chronological and alphabetical order respectively on loading.

After selecting Merge, the screen shows:

You now have two options:

1. Enter a new filename and press **[RTN]**
2. View a list of files on any drive and directory.

See **Files Load** earlier in this chapter for a full description of the two options.

The current filename will remain the same, so if you save the combined file, remember to choose a different name to avoid overwriting the original.

The Merge command may be used any number of times within the limits of free memory available.

Files: Print

This will print the current file to a printer or to a file. The parameters for this, such as margins and page length are defined in Setup. See **Chapter 8** for further information.

The Clipboard

The Clipboard is a feature of the Portfolio which allows you to copy or transfer data from one area of a file to another, from one file to another, or from one application to another. For example, if you have a Worksheet file which contains a financial projection for your business, you might want to copy the contents of a few rows to a business plan document in the Editor. The Clipboard makes it possible.

It can also be used for simple text manipulation in the Editor.

The Clipboard allows you to copy or move information freely between files created in the Address Book, Diary, Editor and Worksheet. The Calculator and Setup facility are not file based applications, and so have no access to the Clipboard.

Note: This section presumes a certain knowledge of the Portfolio applications. If you are a complete beginner, it is recommended you read the subsequent chapters first; learn a little about using the applications, then come back and find out how to operate the Clipboard.

Using the Clipboard

Whichever of the four applications you are using, the Clipboard is operated from the commands in the Clipboard menu. The Clipboard menu (accessed by pressing **[F3]**) contains the following commands:

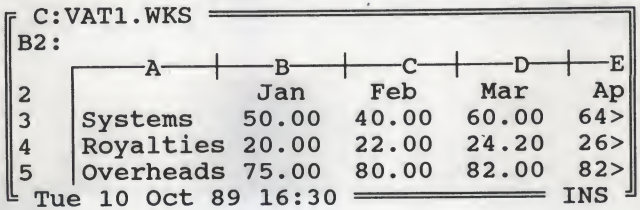
Cut	Cut a block from the current file into the Clipboard
Store	Copy a block from the current file into the Clipboard
Paste	Paste a copy of the Clipboard into the current file
Mark	Place a mark at the start of the block to be copied or cut

If the Clipboard has been used in an application, and the CLIPBOARD SAVE facility within Setup in the main Applications menu has been set to ON, the Clipboard will be automatically saved in a file when the application is terminated. This file is C:\SYSTEM\CLIPBORD.DAT. This facility can be switched off to save memory.

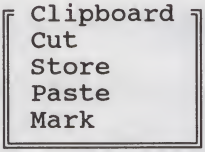
The process of using the Clipboard is as follows:

1. Position the cursor at the beginning of the block of information you want to copy or transfer.
2. Select Mark to mark the start of the block.
3. Move to the end of the block and select Store or Cut.
4. Move to the desired position in the current file or load the application and file required.
5. Select Paste to paste a copy of the information at the current position.

Now let's go through that in some detail. For example, you have created a Worksheet and want to copy the contents of cells A2 to D5 into an Editor file. The Worksheet looks like this:



First position the cursor in cell A2, the top left cell in the block to be copied. Press **[F3]** to view the Clipboard menu. The screen shows:



Press **[M]** to select Mark. You are then returned to the Worksheet. Now position the cursor in cell D5, the bottom right hand cell of the block to be copied. Press **[F3]** again to view the Clipboard menu. This time position the cursor over the S of Store and press **[RTN]**. The block of cells from A2 to D5 is immediately copied to the Clipboard.

The contents of the Clipboard may now be pasted into another location in the same file, or into any other file. To paste the block of cells into a document file, you must first exit from the Worksheet by pressing **[ESC]**.

Now go into the Editor in the usual way. Whether you now load an existing file or begin with a blank document, the process is the same.

First position the cursor in the document at the place where you want the block of cells to begin. For example, your document might look like this:

Dear VP

As requested, here are the details of the Systems and Royalties totals for the first quarter:

My report on the conference will be on your desk tomorrow.

Regards

Fiona

Position the cursor at the start of the line above 'My report...'. Press **[F3]** to view the Clipboard menu, and press **[P]** to select Paste. The block of cells from the Worksheet is pasted immediately into the document, which now reads:

Dear VP

As requested, here are the details of the Systems and Royalties totals for the first quarter:

	Jan	Feb	Mar
Systems	50.00	40.00	60.00
Royalties	20.00	22.00	24.20
Overheads	75.00	80.00	82.00

My report on the conference will be on your desk tomorrow.

Regards

Fiona

The process of using Paste is a non-destructive one - you can paste the information in the Clipboard into as many different positions or files as you wish. The information will

remain in the Clipboard until you use the Clipboard to transfer some other information.

Undeleting Data

The Portfolio has a powerful undelete tool, which stores every item of data deleted by the **[DEL]** key in a file called UNDELETE.DAT, which is located in the directory C:\SYSTEM.

When using any application, to undelete the most recently deleted item, press **[F4]**. Subsequent presses of **[F4]** undelete previously deleted items. An item may be:

1. a single character deleted by the **[DEL]** or the **[Backspace]** keys
2. the contents of a cell in the Worksheet deleted by using the **[DEL]** key
3. the contents of a cell in the Worksheet deleted by the Erase command (a number of cells deleted in one Erase operation will be stored in the Undelete file as individual entities)
4. a line or part line deleted from the Editor with one of the text deletion commands
5. an entry deleted from the Diary or Address Book

The Undelete facility can also be used to move words and blocks around easily. For example to move the word "easily" in the phrase:

To easily process

just position the cursor on the p of process. Press **[CTRL] [Backspace]** to delete the word "easily". Press **[CTRL] [Right Arrow]** to move to the end of "process". Press **[F4]**. The phrase now reads:

To process easily

CHAPTER 4
THE ADDRESS BOOK

INTRODUCTION

The Atari Portfolio has a built in Address Book which allows you to store hundreds of names, telephone numbers and addresses and, at the touch of a key, auto-dial telephone numbers by holding the Portfolio against the telephone handset.

You can keep any number of Address Book files. For example, you might have one file for your personal names, numbers and addresses and another for your professional contacts.

Each entry, or card, in the Address Book file may contain any number of lines and any number of alternative telephone numbers. The Address Book file may be created from within the Address Book itself, or you can type in all of your names and addresses using the Portfolio's Text Editor. The file can then be loaded into the Address Book.

Address Book files are always automatically sorted as they are loaded. Entries are sorted on the first line in each record. They are sorted into the following order using the first characters in the first line:

- Alphabetical
- Numerical
- Others according to the ASCII value.

This means that (unlike a telephone directory) the entries starting with a number, for example, 3D Software Corp Inc, would be found after the alphabetically listed entries. When files are sorted, upper and lower case letters are treated the same, so the following would be possible:

Al's Cafe, (452) 234 4567
Bazco Motor Repairs, (312) 123 4567
camera shop, 192 8374
Dentist, (07141) 124 368

The Address Book allows you to search for a name, number or address, or just a part of any of the three.

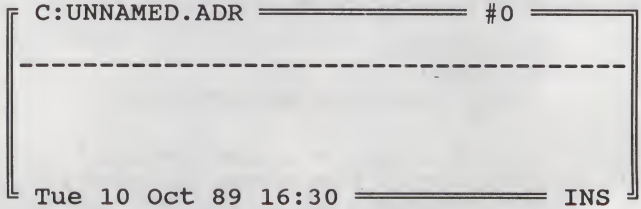
When you have found a particular entry in the file, you can, if your telephone uses the tone dialing system, tell the Portfolio to dial the number for you. Just lift the handset of the telephone, hold the mouthpiece against the Portfolio and the number will be dialed for you by the Portfolio's built in tone dialer.

STARTING THE ADDRESS BOOK

If the applications menu is displayed, press **[A]** to select Address, or if you are in another application or within DOS, hold down the 人 key and press **[A]**. Or, type APP/A and press **[RTN]** from DOS.

USING THE ADDRESS BOOK

When you first select the Address Book from the applications menu, the screen shows:



The top line of the screen shows the default name of the Address Book file, UNNAMED.ADR, and, at the right, the

number of entries in the file. Of course, when you use the Address Book for the first time, there will be no entries. The bottom of the screen shows the current date and time, the status of the keyboard locks (CAPS, NUM and SCROLL) and whether you are in Insert or Overwrite mode.

You are now looking at a blank entry in the Address Book. The top part of the screen, above the line, is for the name and telephone number and the rest of the screen is for the address. You can now go straight ahead and enter your first name, number and address. For example, type:

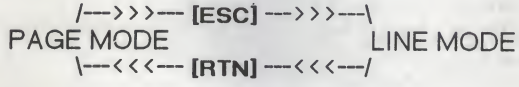
Trevor Alan, (415) 123 456
45 Avenue West
Downtown
Ca 94414

(Press **[RTN]** at the end of each line of text.)

The address can occupy more lines than can be shown on the screen, so if you want to enter a very long address, just keep on typing, remembering to press **[RTN]** at the end of each line. When you have entered the last line of the address, press **[PG DN]** (**[FN]** + **[Down Arrow]**). The screen will clear and you will be able to enter another name and address, or press **[ESC]** to escape from Page mode.

Operating Modes

The Address Book has two main operating modes, Line mode and Page mode. All entries are made in the Address Book in Page mode. Press **[ESC]** to switch to Line mode and press **[RTN]** to switch back to Page mode.



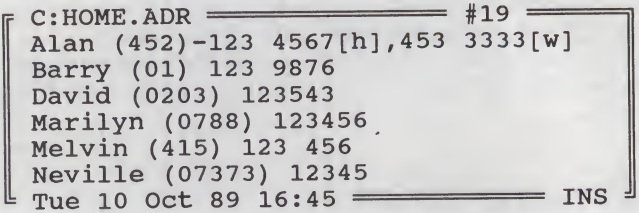
Note that, like in the other Portfolio application, as soon as you type any information, altering the current file, the 'changed' symbol appears at the right hand side of the top of the screen frame (if the frame is Off, press **[F5]** to switch it on to see the changed symbol).

To the left of the 'changed' symbol is an entry counter. This shows the number of card entries in the current Address Book file.

Line Mode

Line mode allows you to scan through the whole file, seeing just a list of names and numbers - the top line of each entry. The list is always stored in alphabetical order and as new entries are made, they are inserted into the list at the correct place to keep the list in order.

When you have a number of entries in your Address Book file, Line mode looks like this:



You can scan through the list in any of three ways:

1. By a card at a time: press **[Up Arrow]** (move up) or **[Down Arrow]** (move down)
2. By two thirds of a screen at a time: press **[PG UP]** or **[PG DN]**
3. By pressing a letter key.

The third option allows you to move to the first entry which starts with the letter pressed. So if you are looking for the number of David, press **[D]**. The cursor will jump immediately down to the first entry starting with D. It is then just a matter of pressing **[Down Arrow]** a few times to move down until the cursor is on the entry for David.

Equally, if you are at any point in the file in Line mode, and want to move up to the top of the file, press **[A]**. The cursor will move up immediately to the top of the file, whether or not there are any entries starting with A.

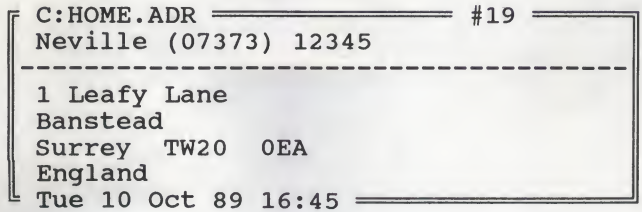
When the cursor is positioned on an entry starting with, for example, A, subsequent presses of **[A]** will move the cursor to subsequent entries starting with that letter. When the cursor is positioned in the last entry starting with A, if you press **[A]** again, you will be returned to the first entry starting with that letter.

Page Mode

To switch to Page mode from Line mode, just press **[RTN]**: to switch back to Line mode from Page mode, just press **[ESC]**.

Page mode allows you to scan through the whole Address Book file, seeing one whole entry at a time. Press **[PG DN]** to move down to the next entry in the file, or **[PG UP]** to move up to the previous entry in the file.

Page mode looks like this:



To move the cursor around within an entry, use the cursor keys. You can edit the current entry simply by over-typing the existing information on the screen.

Adding Entries

To add entries to the Address Book, first go into Line mode - that is, if the screen shows all of the lines of just one entry, press **[ESC]** to change from Page mode to Line mode. Now press **[TAB]**. The screen shows a blank Address Book entry, into which you can now type a name and number and, if you wish, a corresponding address. (See Page 96 for another method of adding entries.)

At the end of the entry, press **[PG DN]** (**[FN]** + **[Down Arrow]**) to end the new record and start another new one. Press **[ESC]** to return to Line mode.

Remember to save the edited Address Book file before you leave the Address Book altogether.

Deleting Entries

To delete an entry in the Address Book, first make sure you are in Line mode (press **[ESC]** to switch to Line mode from Page mode). Position the cursor on the entry to be deleted and press the **[DEL]** key. The entry is deleted; the entry count at the top of the frame is decremented and the 'changed' symbol is shown at the top right of the screen. Don't worry if you have accidentally deleted an entry that you wanted to keep - just press **[F4]** (the Undelete command) and the entry will be restored. Repeated pressing of **[F4]** will bring back successive deletions, whether from the Address Book or any other application.

The Auto-Dialer

The first line of any Address Book entry should contain a name and telephone number. This is so that you can see the name and number at a glance in Line mode.

The first line of an entry might look like this:

Peter & Kate Johnson, (063637) 543

The line consists of a name, a comma, a dialing code and a local telephone number. Most entries in the Address Book will have a first line which follows this pattern.

The auto-dialer accepts numbers in parentheses as dialing codes; commas as separators and other numbers as direct local telephone numbers.

There are more ways in which you can store telephone numbers and these are described in some detail later in this chapter under the heading **The Dial Command**.

Function Keys

Just like the other Portfolio applications, the Address Book uses function keys to carry out certain operations. The uses of the function keys are as follows:

[F1] Display the current application's main command menu

[F2] Request help on the current application

[F3] Operate the Clipboard

[F4] Recover the previous character or block deleted

[F5] Toggle screen frame on or off

[F6] to **[F10]** are unused in the Address Book.

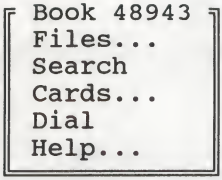
The operation of the Clipboard and undelete function are explained in **Chapter 3**.

The following keys may also be used as shortcuts:

Key Press	Effect
[CTRL] [A]	Go to top of file
[CTRL] [B]	Delete to beginning of line
[CTRL] [D]	Redial
[CTRL] [E]	Delete to end of line
[CTRL] [L]	Delete line
[CTRL] [S]	Repeat last search
[CTRL] [U]	Go to previous cursor position
[CTRL] [W]	Delete word right
[CTRL] [Z]	Go to bottom of file
[CTRL] [Backspace]	Delete word left
[CTRL] [Right Arrow]	Move word right
[CTRL] [Left Arrow]	Move word left
[FN] [Left Arrow]	(**[HOME]**) Go to beginning of line
[FN] [Right Arrow]	(**[END]**) Go to end of line
[TAB]	Insert new record
[RTN]/[ESC]	Toggle between line and Page modes

THE ADDRESS BOOK COMMAND MENU

The Portfolio Address Book commands are all available by pressing **[F1]**. When you press **[F1]**, the screen shows the main command menu:



The top line of the main command menu window shows the amount of free memory in the Portfolio as a number of bytes.

The Command Tree

The following diagram shows the command menu tree:

Files.....New
Load
Save as
Merge
Write Selected
Print

Search

Cards.....Insert
Erase
Select
Dial Prefix

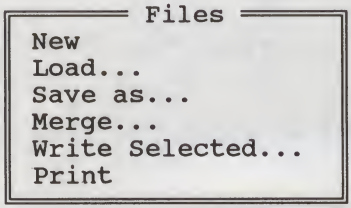
Dial

Help.....Address Book menu
File handling
Dialing

Files: New, Load, Save as, Merge, Print

Built into the Files section is an extensive file management program, which enables you to select the files you want quickly, and will protect you against accidental loss of data. (This is explained in more detail in **Chapter 3**.)

When in either line or Page mode, press the **[F1]** key to view the main command menu and press **[F]** to view the Files menu, which looks like this:



New clears the current contents of the Address Book, making it ready for a new set of names, numbers and addresses. If the current file has changed since it was loaded, you are offered the option of saving first.

Load loads in an existing Address Book file from any of the available drives. The current file is offered as a default, should you wish to revert to the last saved version. Alternatively enter the drive, path and filename of the file you wish to load. You may also use wildcards (* and ?) to list available files. If the file you wish to load is different from the current file, and changes have been made since it was loaded, you are offered the option of saving the current file first.

Save as saves an Address Book file under either the existing name or another name on any of the available drives. The current file is offered as a default. Alternatively

enter the drive, path and name of the file you wish to load. You may also use wildcards (* and ?) to list available files. If you wish to save to a file of a different name, you are asked to confirm that the existing file should be overwritten.

Merge allows you to merge another Address Book file with the currently loaded Address Book file, making a new, combined file. Select the file in the same way as Save. That file is then loaded and added to the current file, and the combined file sorted into order as described at the start of this chapter. The current filename will remain the same, so if you save the combined file, remember to choose a different name to avoid overwriting the original.

Note that if your two files contain any entries that are the same, the new combined file will contain those two entries side by side. If this is the case, you may need to go through the new file and delete one copy of any double entries.

The Merge command may be used any number of times within the limits of free memory available.

Print will print the current Address Book to a printer or to a file. The parameters for this, such as margins and page length are defined in Setup. See **Chapter 8** for further information.

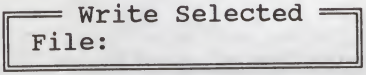
Files: Write Selected

If you have selected a group of entries by using the Cards Select option (see **Cards** section on how to create the group), you can save this subset of the file to a new Address Book.

This is useful if you want to split your Address Book up into smaller sections.

When the Files menu is displayed, press **[W]** to select the Write Selected command.

The screen shows:



You now have two options:

1. Enter a new file name and press **[RTN]**
2. View a list of files by using the * or ? wildcards.

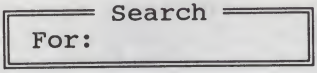
Choose a different filename as the current task; otherwise you will overwrite the original.

If no cards have been selected, the whole file will be saved.

The Search Command

The Search command allows you to search the current Address Book file for a name or telephone number or any part of an address. When the Address Book is in Line mode, press **[F1]** to view the Address Book menu, and press **[S]** to select Search.

The screen shows:



You may now type a piece of text you would like to find in the current Address Book file. The text may be the start of

a name, part of a telephone number, part of an address or any other part of the entry.

When you have entered a search string, press:

[RTN]	to search in the same direction as the last search (the default is forwards through the file)
[Up Arrow]	to search backwards (towards the start of the file)
[Down Arrow]	to search forwards (towards the end of the file)

The Address Book immediately jumps to the first entry in the current file which contains the specified text.

For example, Scotty MacBain lives in Leigh-on-Sea in Essex. To find his entry in the Address Book, you could search for Scotty, Leigh, Essex, or any other part of the address.

If the first match is incorrect, press **[CTRL]** and **[S]** to continue searching.

To specify a new search string, re-select the Search command as described above.

If the specified search string is not found anywhere in the current Address Book file, the screen shows the message:

```
String not found
```

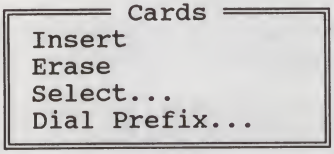
Press **[ESC]** to return to the file.

The Cards Menu

The Cards menu contains commands concerned with the management of entries, 'record cards', within the current Address Book file.

When in either line or Page mode, press the **[F1]** key to view the main command menu and press **[C]** to view the Cards menu. The Cards menu contains the options Insert, Erase, Select and Dial Prefix.

The Cards menu looks like this:

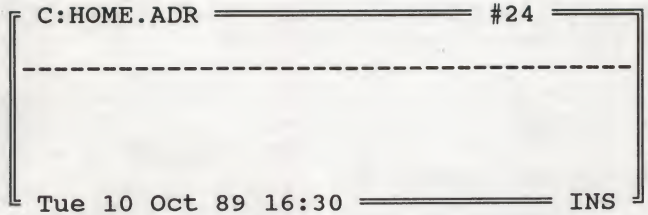


Insert

The Insert command allows you to make new 'record card' entries in the current Address Book file. These are then automatically placed in their correct alphabetical position in the file as described at the start of this chapter.

When the Cards menu is displayed, press **[I]** to select Insert or position the cursor over the I of Insert and press **[RTN]**.

The screen clears and the Address Book enters insert mode, just like when you entered the Address Book for the first time. The screen shows:



The top line of the screen shows the name of the current Address Book file and, at the right, the number of entries in the file. The bottom of the screen shows the current date and time.

You are now looking at a blank entry in the Address Book. The top part of the screen, above the line, is for the name and telephone number and the rest of the screen is for the address. You can now type a new entry in the Address Book file. For example, type:

Trevor Alan, (415) 123 456
45 Avenue West
Downtown
Ca 94414

(Press **[RTN]** at the end of each line of text.)

The address can occupy more lines than can be shown on the screen, so if you want to enter a very long address, just keep on typing, remembering to press **[RTN]** at the end of each line. Note that each line is handled as a separate field by the Address Book, so that once text is entered on a particular line, it is not possible to move it to another line by using the **[DEL]** key, for example. This can be easily overcome by using the Cut and Paste facilities of the Clipboard (accessed by **[F3]**). (See **Chapter 3** for more information on the Clipboard.)

When you have entered the last line of the address, press **[PG DN]**. The screen will clear again and you can type in another entry.

When you have finished adding new entries, press **[ESC]** to exit from insert mode to Line mode.

Note that, like in the other Portfolio applications, as soon as you type or erase any information, altering the current file, the 'changed' symbol appears at the right hand side of the top of the screen frame.

Erase

The Erase command allows you to erase an entry from the current Address Book file.

Before selecting the Erase command, position the cursor on the entry to be erased.

Press **[F1]** to view the Address Book command menu, press **[C]** to select Cards and press **[E]** to select the Erase command, or position the cursor over the E of Erase and press **[RTN]**.

The current entry will be erased and the cursor will be positioned on the following entry in the file. If you are in Page mode when you select erase, the following entry will be displayed in Page mode after erase has been used.

The fastest way to delete an entry in List mode is simply to press the **[DEL]** key. Don't worry if you accidentally delete an entry; it can be recovered - 'undeleted' - by pressing **[F4]**.

Select

The Select command allows you to make a selection of the entries in the current Address Book file, based on a search string like that used with the Search command.

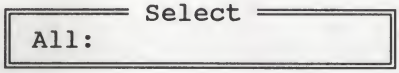
Entries can be grouped together by adding a common extra line in each record. For example, you could enter the names and numbers of the members of your bridge

club in the Address Book. At the last line of each of these entries, add the word Bridge. Then when you want to ring all of the members to organize a tournament, you can either search for the word Bridge, (see the **Search** section above), or you can create an entirely separate file of your Bridge contacts by using the Cards Select function.

Using this Select function is like saying, 'give me just the record cards which contain the following text'.

When the Cards menu is displayed, press **[S]** to use the Select command.

The screen shows:

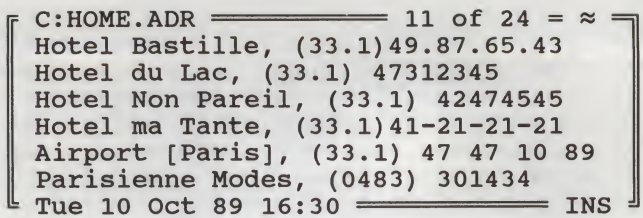


You may now enter a search string, on the basis of which the selection process will be made. For example, if you type:

Paris **[RTN]**

all entries which contain the text 'Paris', regardless of case (that is, capitals or small letters), will be retained and the other entries in the file will be excluded. Now when you scan through the file, it is as if only those entries which matched the search string are in the file. You have selected a sub-set of the main file.

The top right of the screen shows the number of entries in the sub-set file and the main file:



If you now press the **[ESC]** key, the selection will be abandoned and the whole file, as it was before the selection process, will be retained as before. The top right of the frame confirms this by giving the number of entries in the file without a 'number selected' being shown. A further press of **[ESC]** allows you to exit from the Address Book.

Alternatively, you may save your selection as a separate Address Book file. Select the Write Selected command from the Files menu as described earlier in this chapter and give the selection a name. So if you selected all the entries in your main file which contained the text 'Paris', you could save them under the name PARIS.ADR. The original file is still safe on the drive from which it was loaded.

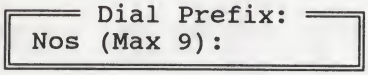
Dial Prefix

The Dial Prefix command allows you to set a prefix number which is dialed in front of any number contained in the Address Book when using the Dial command. (See below.)

The Dial Prefix is useful for dialing out from an in-house exchange. For example, many office buildings' PABX systems require you to dial 9 to request an outside line and then dial the number you want to contact. The prefix number may consist of up to 9 digits.

When the Cards menu is displayed, press **[D]** to select Dial Prefix.

The screen shows the following, including the prefix:



Type the prefix you want to be used with all telephone numbers and press **[RTN]**. For example, type:

9 **[RTN]**

Now, until you reset the Dial Prefix, a 9 will be dialed as a prefix to all telephone numbers.

The Dial Command

The Dial command allows you to use the Portfolio as an auto-dialler for any of the telephone numbers stored in the Address Book.

Technical Note: The Portfolio uses a DTMF tone dialer which generates international standard dial tones. Telephone numbers cannot be dialed if a phone only supports pulse dialing.

Before selecting the Dial command, first position the cursor on the entry you want to dial. The Address Book may be in either Line or Page mode.

Press **[F1]** to select the main Address Book command menu and press **[D]** to select the Dial command.

The screen then shows a window containing all the possible dialing combinations found in the first line of the current entry.

For example, if the first line of the current entry reads:

Peter & Kate Johnson, (063637) 543

The possible dialing combinations are:

063637 543	dialing from outside their local area
543	dialing from inside their local area

So the Dial command shows:

```
Peter & Kate Johnson
(063637) 543
543
Edit
```

To dial either of the numbers shown, simply position the cursor over the start of the number, hold the telephone handset against the Portfolio's speaker next to the screen and press **[RTN]**. If you want to redial the last number, press **[CTRL] [D]**.

The Edit Option

I might also know that Kate is visiting friends this evening on 234 in the same dialing code area. It might be useful therefore to be able to dial that number without it actually being entered into the Address Book.

The Edit option allows you to alter any of the available numbers, and then dial the altered version as described above. Having selected Edit, the number required to be edited can be selected using the **[Up Arrow]** and **[Down Arrow]** cursor keys.

Telephone Number Formats

The following rules are applied to telephone numbers stored in the Address Book when you select the Dial command:

- Commas are used to separate different telephone numbers, so the entry 747108, 747109 is offered by the Dial menu as:

  747108
  747109
  Edit

- Numbers in parentheses are treated as dialing codes. Both options are offered in the dial menu - with and without the dialing code. For example, the number (415) 230 1212 is shown in the Dial menu as:

  (415) 230 1212
  230 1212
  Edit

  This allows you to dial from either inside or outside the area specified by the dialing code.

- A full stop (.), a minus (-) or a space can be used to insert a pause in telephone numbers.

  International direct dialing is sometimes made more reliable by the insertion of one or more brief pauses between parts of the number. This allows the dialing mechanisms in the telephone network to connect properly before going on to the next part of the number.

  For example, you might have an entry such as:

  Hotel du Lac, (010.33.1) 47321234

  The Hotel is in Paris, France, so the telephone number includes the international dialing code (010 - in this case from England), the code for France (33) and the code for Paris (1), all separated by full stops.

  When the number is dialed with the dialing code included, for example, from the United Kingdom, the first three digits are dialed, then a brief pause, then the next

two digits and another pause and then the rest of the telephone number.

- Comments may be added in square brackets. Comments added after the number are included in the Dial menu; comments inserted before the number are not included in the Dial menu.

  For example, you might want to include someone's home and office telephone numbers, with the comments appearing in the Dial menu. The entry might read:

  Neil, (415) 856 5555 [Work], (415) 558 2888 [Home]

  This would be shown in the Dial menu as:

  (415) 856 5555 [Work]
  856 5555 [Work]
  (415) 558 2888 [Home]
  558 2888 [Home]
  Edit

  To exclude a comment from the Dial menu, insert it before the number like this:

  Neil, [Not Weds or Thurs] (415) 856 5555, (415) 558 2888 [H]

  This would be shown in the Dial menu as:

  (415) 856 5555
  856 5555
  (415) 558 2888 [H]
  558 2888 [H]
  Edit

- Telephone Numbers which have alternative endings need not be entered in full. The Address Book operates on a 'count-back' method. For example, an entry for a company which has three incoming lines might read:

  Price Printers, (213) 111 1117, (213) 111 1118, (213) 111 1119

These would be shown in the Dial menu as:

(213) 111 1117
111 1117
(213) 111 1118
111 1118
(213) 111 1119
111 1119
Edit

An alternative to entering such a long sequence of numbers into the Address Book (so avoiding wasting memory) is to enter the telephone number like this:

Price Printers, (213) 111 1117/8/9

The slash (/) indicates that the following is an alternative ending for the telephone number.

The Help Command

Help describes briefly the use of the menu functions, file handling and dialing. For general help on the keyboard, Clipboard, undelete and function keys, press **[F2]** while in the Address Book, not at the Applications menu.

CHAPTER 5
THE CALCULATOR

INTRODUCTION

The Atari Portfolio has a built-in Calculator. The Calculator has five memories; operates in general, fixed, scientific and engineering modes and displays an editable 'tape' of all of the calculations made. Other built in functions include optional printer output, a range of percentage tools, factorials, one-key negation, square roots, brackets, powers and a range of numeric formats.

The calculation tape can be edited to allow 'what-if' calculations to be performed on the numbers already entered.

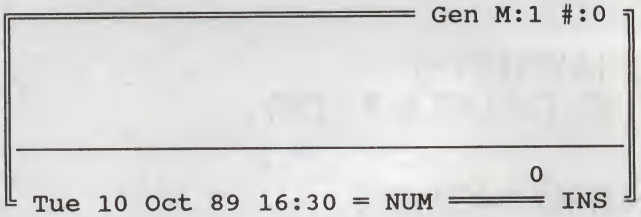
As the Calculator is not a file based application, the Clipboard does not operate when the Calculator is running and there is no filename displayed at the top left of the screen.

STARTING THE CALCULATOR

If the Applications menu is displayed, press **[C]** to select Calculator or if you are in another application or within DOS, hold down the ⅄ key and press **[C]**. Alternatively type APP /C from DOS or from a batch file.

USING THE CALCULATOR

When you first select the Calculator from the Applications menu, the screen shows:



The top line shows the number of stages in the current calculation process (1+2+3 is three stages). The bottom line shows the current date and time and that the keyboard is in Num Lock mode. This means that the embedded numeric keypad is operational. (The use of the numeric keypad is described in some detail in **Chapter 1**.)

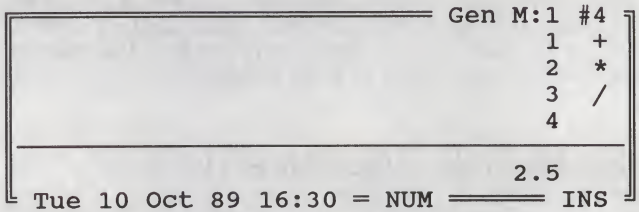
The lower part of the screen shows the current number entered, or the current result.

The Calculator operates just like an ordinary Calculator when using the four basic arithmetic operators: +, -, * and /.

For example, type:

1 + 2 * 3 / 4 **[RTN]**

The screen shows:

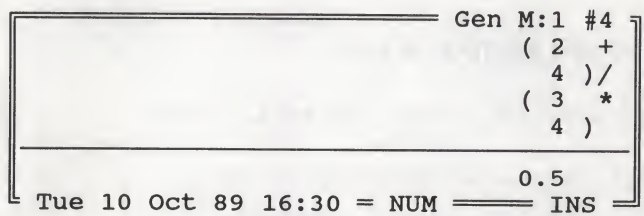


During a calculation (before pressing **[RTN]**) the lower part of the screen will show intermediate results based on the order of precedence of the arithmetic operators. You can ensure that the calculation is evaluated in the required

order by using brackets. For example, to calculate the result of 2 * 4 divided by the result of 3 * 4, you would enter:

(2 + 4) / (3 * 4) **[RTN]**

The screen shows:



The number of pairs of brackets which may be used in a single calculation is dependent upon the actual operators used within the calculation. If you use too many brackets, a stack full error message displays.

Editing Calculations

If a mistake has been made in a calculation, or you wish to review the calculation, press **[Up Arrow]** to leave the input line and enter the tape. Press **[ESC]** to clear an entry. Press **[Backspace]** to clear a single digit.

Move around the tape with the cursor keys and edit the calculation at any point. More than one calculation can be inputted on one line during this and brackets can be added.

Note: During tape editing, there is no access to the memories.

To delete a whole line of calculation, press **[CTRL] [L]**.

Once editing has finished, press **[RTN]**. The tape will be recalculated, and the cursor is returned to the input line. If you wish to continue a calculation, finish the last line of the tape with an operator.

Pressing **[ESC]** in the tape will first restore the current line, and then return you to the input line.

The Function Keys

The Calculator function keys are as follows:

[F1] Display the Calculator main menu

[F2] Request help on the Calculator

[F4] Recover the previous deleted character or line

[F5] Zoom screen frame on or off

[F7] Square root of current number (√)

[F8] Add current number to default memory (M+)

[F9] Subtract current number from current memory (M-)

[F10] Memory recall/Clear memory (MR/MC)

[F3] and **[F6]** are unused.

Operators

Powers

To calculate powers, use the '^' character (**[SHIFT][6]**). For example, to calculate 2 to the 5th power, type:

2 ^ 5 **[RTN]**

Roots

To calculate the square root of the current number or result, press **[F7]**. The square root is displayed in the lower area of the screen.

To calculate roots other than the square root, use the following formula:

nth root of x = x to the power (1 / n)

For example, to calculate the cube root of 2.5, type:

2.5 ^ (1 / 3) **[RTN]**

Factorials

To calculate the factorial of the current number or result, type the number followed by a '!' character (**[SHIFT][1]**). The factorial is displayed in the lower area of the screen.

Negation

To negate (change the sign of) the current number or result, press the **[TAB]** key. The sign of the number is immediately changed.

Percentages

The Portfolio Calculator can calculate percentages in the following ways:

1. Add a percentage to the current number
2. Subtract a percentage from the current number
3. Calculate mark up
4. Calculate mark down

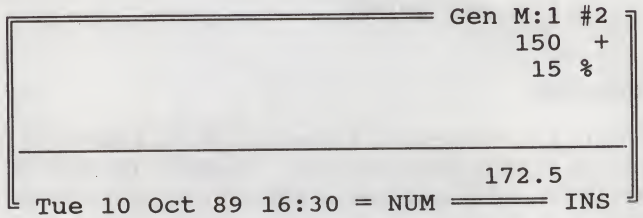
See also the description of the **Breakdown** command later in this chapter.

1. Add a percentage to the current number

For example, an item costs $150 plus 15% sales tax. To calculate the tax inclusive price, type:

150 + 15 % **[RTN]**

The screen shows:

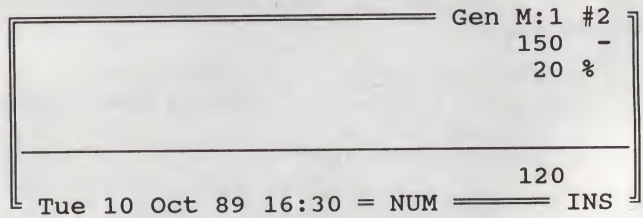


2. Subtract a percentage from the current number

For example, an item costs $150, but you have secured a discount of 20%. To calculate the discounted price, type:

150 - 20 % **[RTN]**

The screen shows:



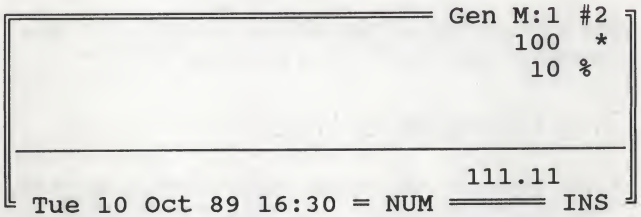
3. Calculate mark up

For example, a sales executive's mark up is ten percent of the customer price. If an item costs $100, what must the customer price be for the sales executive to make the correct commission?

Type:

100 * 10 % **[RTN]**

The screen shows:



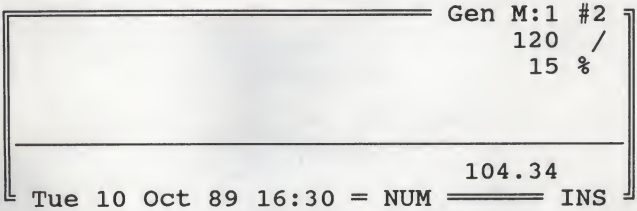
4. Calculate mark down

For example, an item costs $120 including tax at 15 percent. What was the price before tax was added.

Type:

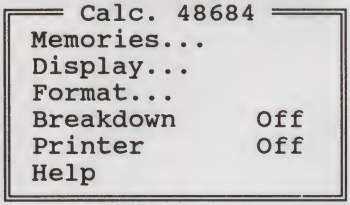
120 / 15 % **[RTN]**

The screen shows:



THE CALCULATOR COMMANDS

The Calculator commands are all available by pressing **[F1]**:



The top part of the frame shows the amount of free memory in your Portfolio as a number of bytes.

The Command Tree

The Calculator commands may be thought of as forming a 'tree'. Each command in the top Command menu may lead to a further menu of options. The following diagram shows the Command menu tree:

Memories	Plus (F8) Minus (F9) Recall (F10) Clear Show contents Default	
Display	Separators Decimal point	Off, On
Format	General Fixed Scientific Engineering	
Breakdown	Off, On	
Printer	Off, On	
Help		

The Memories Menu

The Memories menu allows you to add the current number to a memory, subtract the current number from a memory, recall the contents of a memory, clear any or all memories, show the contents of the memories or set the default memory.

When the main Calculator menu is displayed, press **[M]** to select the Memories command. The Memories menu will always ask you which memory you wish to use (from 1 to 5).

These memories can be accessed also by using the function keys **[F8]** to **[F10]**. However, at any one time there is just one memory accessible from the function keys. When you add, subtract or recall the contents of the memory by using **[F8]**, **[F9]** or **[F10]** respectively, each of these operations accesses just one of the five memories. To access any memory other than the default, either use the Memories Menu option or change the default memory using the Default command described later in this chapter.

Any memories whose contents are non-zero are indicated in the frame.

Plus

To add the number displayed on the input line to the default memory press **[F8]**.

To add a number to any other memory, select the Plus command from the Memories menu, and then choose the memory you want to add to (1 to 5). After using the Plus command, the characters 'M+' are displayed just to the right of the current number on the input line.

Minus

To subtract the number displayed on the input line - which may or may not be a calculated result - from the default memory press **[F9]**.

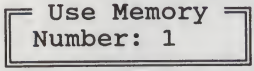
To subtract a number from any other memory, select the Minus command from the Memories menu and choose the memory you wish to use.

After using the Minus command, the characters 'M-' are displayed just to the right of the current number on the input line.

Recall

To recall a number from the default memory to the input line press **[F10]**.

To recall the contents of one of the other five memories, select the Recall command from the Memories menu. The screen shows:



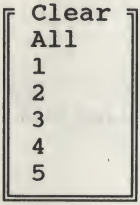
Type the number of the memory you want to recall, then press **[RTN]**. The number is recalled from the selected memory to the input line.

After using the Recall command, the characters 'MR' are displayed just to the right of the current number on the input line.

Clear

The Clear command allows you to clear the contents of any or all of the Calculator memories. The process of clearing a memory returns its value to 0.

Select Clear from the Memories menu. The screen shows:

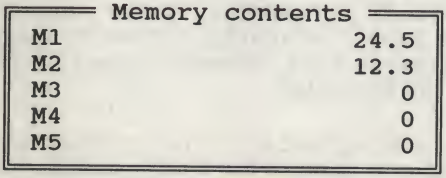


Selecting All will set all memories to 0. Selecting a number will clear the corresponding memory.

To clear the default memory, press **[F10]** twice.

Show contents

Show contents allows you to see the current contents of all five memories. For example, the screen may show:



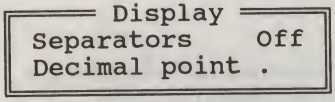
The contents of each memory is shown alongside its name. Memories which have not been used contain the value 0.

Default

The Default command allows you to select any of the five memories as the default when using the function key short cuts for Memory Plus, Memory Minus and Memory Recall. When selected a menu giving the five memories will be presented.

The Display Menu

The Display menu contains two commands which allow you to set the type of numeric display you would like the Calculator to use:



You can choose to use a triad separator, which inserts a comma at every third digit before the decimal point, for example:

3,456,123.00

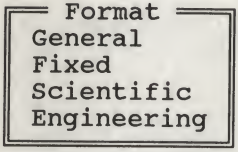
The second command, Decimal point, toggles the decimal point character. The two characters, either of which may be used as a decimal point are the full stop (.) and the comma (,). The current decimal point character is shown alongside the Decimal point command. Select Decimal point to toggle the character.

Whichever character is used as the decimal point (, or .), the other character is used as the triad separator, if this display mode is selected. For example 1000.24 would be displayed as follows:

1,000.24	with Separators ON and Decimal point set to (.)
1.000,24	with Separators ON and Decimal point set to (,)
1000.24	with Separators OFF and Decimal point set to (.)
1000,24	with Separators OFF and Decimal point set to (,)

The Format Menu

The Format menu allows you to select the numeric format used to display numbers. When Format is selected from the main Calculator Command menu, the screen shows:



You can select any of the numeric formats in the usual way. The effect of using each format on the number 30000.05 is shown below. In these examples, the triad separators are not used and the decimal point character is the full stop:

Format	**Effect**
General	30000.05
Fixed	30000.050 (at 3 decimal places)
Scientific	3.00E+04 (at 2 decimal places)
Engineering	30.000E+03 (at 3 decimal places)

Note that in the last of these formats, Engineering, the exponent is always a multiple of 3.

When you select a format, press **[RTN]** to display the current number in the newly selected format. The format of the numbers in the tape remain unchanged.

The Breakdown Command

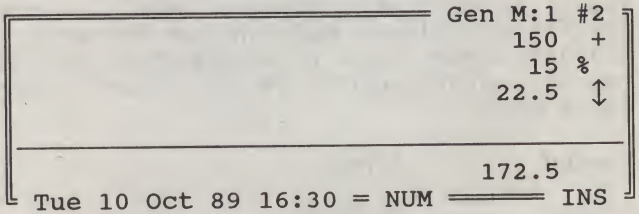
The Breakdown command allows you to toggle the display of a full numeric breakdown when calculating percentages. The current state is shown alongside the command.

When Breakdown is Off, percentage calculations are displayed in the form of just data and result as described earlier in this chapter. When Breakdown is On, the calculation is shown as data, interim data and result.

For example, an item costs $150 plus 15% tax. To calculate the tax inclusive price, type:

150 + 15 % **[RTN]**

With Breakdown On, the screen shows:



The number alongside the double headed arrow shows the amount which has been added on to the original value to produce the result. If you continue the calculation by now typing an operator, the interim value line disappears.

The Printer Command

The Printer command allows you to output the result to a printer attached to the Portfolio or to a filename as set under Setup in the main Applications menu.

The current state is shown alongside the command. If Printer is currently Off, data and results will be displayed only on the screen as usual. If Printer is On, the current calculation will be sent to a printer at each press of the **[RTN]** key.

For example, when Printer is On, this calculation:

1 + 2 + 3 **[RTN]** - 1 + 7 **[RTN]**

would display the following on the attached printer:

```
  1 +
  2 +
  3
------
  6

  6 -
  1 +
  7
------
 12
```

Remember to select the printer parameters in Setup, and turn the printer on before using this command.

The Help Command

Help gives a summary of the Calculator's features. For more general help, press **[F2]** when using the Calculator.

CHAPTER 6
THE DIARY

INTRODUCTION

The Atari Portfolio has a built-in Diary. The Diary operates in two modes, Calendar mode and Diary mode. Calendar mode allows you to move through the calendar and select any day's appointments. Diary mode allows you to enter and edit notes and appointments for any time of any day. An alarm may be set for any Diary entry, so important appointments can be brought to your attention by a beeping sound.

Appointments (with or without alarms) may be set to repeat daily, daily excepting Saturday and Sunday (week-daily), weekly or monthly. For example, you might play squash every Tuesday at 12.30. The weekly repeat facility would allow you to set a reminder once, which would then be repeated every week until further notice. The monthly repeat facility might be used to remind you to make a payment on the 24th of the month. The yearly repeat is useful for reminding you of important birthdays or anniversaries.

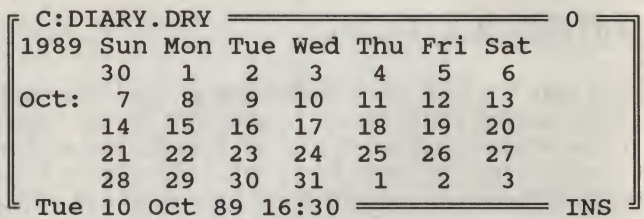
The Diary can be searched for any entry and Diary files can be loaded, saved, merged and printed out.

STARTING THE DIARY

If the Applications menu is displayed, press **[D]** to select Diary, or if you are in another application or within DOS, hold down the ⅄ key and press **[D]**. Alternatively from DOS or a batch file, type APP /D.

USING THE DIARY

When you first select the Diary, the screen shows:



The Diary has two modes. Initially it is in Calendar mode. The cursor is positioned on the current date, part way down the screen.

The screen frame shows at the top left the name of the current Diary file. This is initially DIARY.DRY in the directory C:\SYSTEM. You must use this Diary file for any alarms you want to set.

The top right of the frame shows the number of appointments the current Diary file contains.

The bottom of the frame shows the current date and time, the status of the keyboard locks (CAPS, NUM and SCROLL) and whether you are in Insert or Overwrite mode.

Calendar Mode

You can move around the calendar using this mode as you would an ordinary calendar. You can move around the calendar by using the cursor keys as follows:

Key	Effect
[Left Arrow]	one day back
[Right Arrow]	one day forwards
[Up Arrow]	one week back
[Down Arrow]	one week forwards
[PG UP]	three or four weeks back
[PG DN]	three or four weeks forwards
[CTRL] [A]	first appointment
[CTRL] [Z]	last appointment
[HOME]	current date
[RTN]	enter Diary mode

If there are appointments set for a particular day, an asterisk is displayed against the corresponding date on the calendar. If the appointment is tagged to repeat at regular intervals, a letter is displayed instead of the asterisk. The letters are:

'd' for an appointment repeated every day
'w' for weekly
'n' for Monday to Friday (non-weekend)
'm' for monthly
'y' for yearly.

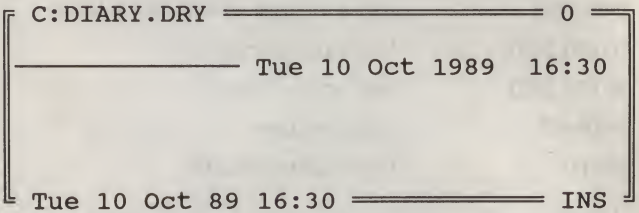
If more than one type of appointment exists for a certain day, only one repeat symbol is shown, being the one with the highest priority. The order of priority is an appointment which is not repeated, then yearly, monthly, weekly, non-weekend, and daily.

So if, for example, one day you have a birthday reminder (yearly repeat) and a meeting (not repeated), an asterisk is displayed against that day on the calendar.

Diary Mode

When the calendar is displayed, press the **[HOME]** (**[FN]** + **[Left Arrow]**) key to return to today's date and press **[RTN]**. You are now in Diary mode. You can now start entering notes and appointments as you would an ordinary diary.

When you first enter Diary mode, the screen shows:



The cursor is in the upper part of the screen, where you can begin typing Diary entries. The lower part of the screen shows the entries, in chronological order, when they have been entered.

The bar between the two areas shows the date and time of the current Diary day. This can be changed, regardless of the day which was current when Diary mode was entered.

Entering Appointments

You can now start entering appointments or changing the date or time.

The Diary will accept dates in any of the following formats:

month-day-year
day-month-year
year-month-day

The format is set by the COUNTRY setting in your CONFIG.SYS file. (See **Chapter 1** for further information on this file.)

All examples below assume the COUNTRY is set to the USA, which uses month-day-year.

Dates are entered separated with [/] or [-], so Christmas day may be entered as 12/25/89 or 12-25-89. Times are entered separated with [.] or [:], and always in 24 hour format. So 1.30 pm may be entered as 13:30 or 13.30.

If you enter a date or a time by itself then the Diary will go to that date or time. You need only specify the parts of the date or time you wish to change, the remainder will be unchanged.

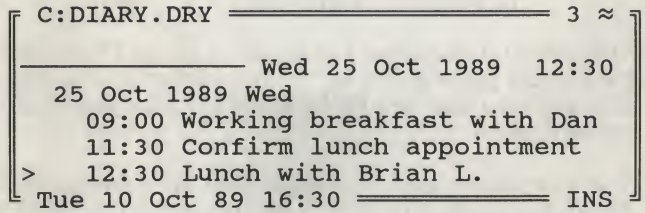
For example, type:

/25 **[RTN]**

to move to the 25th of the current month. Then type:

9.00 Working breakfast with Dan **[RTN]**
11.30 Confirm lunch appointment **[RTN]**
12. Lunch with Brian L. **[RTN]**

Remember you can use a full stop or a colon as a time divider, but they are always converted to colons. The screen now shows:



Notice that the date/time bar has now changed to show the date and time of the last appointment entered; the list of appointments is headed by a date line and that the most recently entered appointment has a pointer at the left of the screen.

The pointer can be moved up and down the list of appointments with the **[Up Arrow]** and **[Down Arrow]** cursor keys.

Don't worry if you have made a mistake, you can edit appointments by pressing **[RTN]** when the pointer is against the relevant line.

Now type:

10/24 **[RTN]**

to move to the 24th of October. Then type:

9.00 Party tomorrow!

Now press **[F5]** to remove the screen frame. The screen shows:

```
                    Tue 24 Oct 1989  09:00
24 Oct 1989 Tue
  >09:00 Party tomorrow!
25 Oct 1989 Wed
   09:00 Working breakfast with Dan
   11:30 Confirm lunch appointment
   12:30 Lunch with Brian L.
```

The Diary has inserted the text for 9.00 on 24 October at the correct place in the list of appointments. The Diary has also added a day header for each of the days containing appointments.

The day header just consists of the date followed by the day of the week. However, you may add a comment to any day header. For example, in the list of appointments

above, 24 October might be your pay day. To add the comment 'Pay Day' to the existing header, type:

10/24 Pay Day **[RTN]**

The screen now shows:

```
_____Tue 24 Oct 1989  09:00
> 24 Oct 1989 Tue Pay Day
    09:00 Party tomorrow!
  25 Oct 1989 Wed
    09:00 Working breakfast with Dan
    11:30 Continue lunch appointment
    12:30Lunch with Brian L.
```

To move to any other date, simply type in that date. For example, to move to 19 November, type:

11/19 **[RTN]**

The date/time bar shows:

_____Sun 19 Nov 1989 09:00 -

Now if you just type a time and a note, for example:

8.30 Happy Birthday Pamela

The note is added under a new day header for 19 November.

To move to a date in another year, for example, 31 December 1999, type:

12/31/99 **[RTN]**

If at any time you enter a piece of text without preceding with a time, the time is taken from the date/time bar. This

also allows you to enter more than one appointment for the same time. For example, you could type:

10/6/89 **[RTN]**

to move to that date. Then type:

9.00 Feed cat **[RTN]**
Water plants **[RTN]**
Leave key with next door **[RTN]**
Go skiing **[RTN]**

The section of the Diary for 6 October shows:

06 Oct 1989 Fri
09:00 Feed cat
09:00 Water plants
09:00 Leave key with next door
09:00 Go skiing

Editing Appointments

You can edit an appointment in Diary mode by positioning the pointer using the **[Down Arrow]** and **[Up Arrow]** keys on the entry to be edited. Press **[RTN]**, and the appointment text can then be edited. If you wish to change the date or time, use the Move option explained below.

Deleting Appointments

To delete an appointment, first make sure you are in Diary mode (press **[RTN]** to switch to Diary mode from the calendar). Position the pointer on the entry to be deleted and press the **[DEL]** key. The entry is deleted; the entry count at the top of the frame is decremented and the 'changed' symbol is shown at the top right of the screen. Don't worry if you have accidentally deleted an entry that you wanted to keep - just press **[F4]** (the Undelete command) and the entry will be restored. Repeated

pressing of **[F4]** will bring back successive deletions, whether from the Diary or any other application.

Alarms

Any appointment (not date headers) may be given an alarm, so that when the appointment becomes due, the Portfolio will sound an audible alarm.

Alarms are discussed in detail under **The Alarm Command** later in this chapter.

FUNCTION KEYS

The Diary uses function keys and control keys to carry out certain operations. The uses of the function keys are as follows:

[F1] Display the current application main command menu

[F2] Request help on the current application

[F3] Operate the Clipboard

[F4] Recover the previous character or block deleted

[F5] Zoom screen frame on or off

[F6] to **[F10]** are unused.

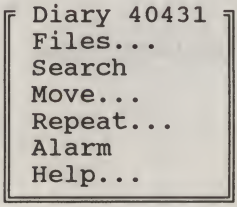
The operation of the Clipboard and Undelete functions are explained in **Chapter 3**.

The following keys may also be used as shortcuts:

Key Press	Effect
[CTRL] [A]	Go to first appointment
[CTRL] [B]	Delete to beginning of line
[CTRL] [E]	Delete to end of line
[CTRL] [L]	Delete line
[CTRL] [S]	Repeat last search
[CTRL] [U]	Go to previous cursor position
[CTRL] [W]	Delete word right
[CTRL] [Z]	Go to last appointment
[CTRL] [Backspace]	Delete word left
[CTRL] [Right Arrow]	Move word right
[CTRL] [Left Arrow]	Move word left
[FN] [Left Arrow]	(**[HOME]**) Go to today (current date/time)
[FN] [Right Arrow]	(**[END]**) Go to end of line
[TAB]	Shift Diary display right (**[SHIFT][TAB]** to revert)
[RTN]/[ESC]	Toggle between calendar and diary

THE DIARY COMMAND MENU

The Diary commands are all available by pressing **[F1]**. The screen will then show the main command menu:



The first time you enter the menu, the top line of the window shows the version number of the software. Thereafter the amount of free memory in the Portfolio is shown as a number of bytes.

The Command Tree

The Diary commands may be thought of as forming a 'tree'. Each command followed by a row of dots (...) will, when selected, lead to further menus. Select the item you want by pressing its first letter, and move back up the tree by pressing **[ESC]**.

The following diagram shows the command menu tree:

Files.....New
Load
Save as
Merge
Print

Search

Move

Repeat.....Daily
Weekly
Non-Weekend
Monthly
Yearly
Clear

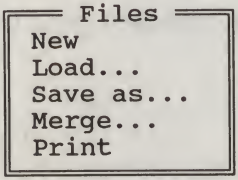
Alarm

Help.....Menus
File handling

Files: New, Load, Save as, Merge, Print

Built into the Files section is an extensive file management program, which enables you to select the files you want quickly, and will protect you against accidental loss of data. (This is explained in more detail in **Chapter 3**.)

When in either the Calendar or Diary modes, press **[F1]** to view the main Command menu and press **[F]** to view the Files menu, which looks like this:



New clears the current contents of the Diary, ready for a new set of appointments. If the current file has changed since it was loaded, you are offered the option of saving first.

Load loads in an existing Diary file from any of the available drives. The current file is offered as a default, should you wish to revert to the last saved version. Alternatively enter the drive, path and filename of the file you wish to load. You may also use wildcards (* and ?) to list available files. If the file you wish to load is different from the current file, and changes have been made since loading, you are offered the option of saving the current file first.

Save as saves a Diary file under either the existing name or another name on any of the available drives. The current file is offered as a default. Alternatively enter the drive, path and name of the file you wish to save. You

may also use wildcards (* and ?) to list available files. If you wish to save to a file of a different name, you are asked to confirm that the existing file should be overwritten.

Merge allows you to merge another Diary file with the currently loaded Diary file, making a new, combined file. Select the file in the same way as Save. That file is then loaded and added to the current file, and the combined file sorted into date and time order. The current filename will remain the same, so if you save the combined file, remember to choose a different name to avoid overwriting the original.

Note: If your two files contain any entries that are the same, the new combined file will contain those two entries side by side. If this is the case, you may need to go through the new file and delete one copy of any double entries.

The **Merge** command may be used any number of times within the limits of free memory available.

Print will print the current Diary to a printer or to a file. The parameters for this, such as margins and page length are defined in Setup. (See **Chapter 8** for further information.)

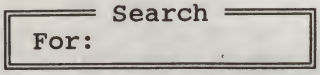
The Search Command

The Search command in the main Diary command menu allows you to search through all entries in the current Diary file.

For example, some time ago, you may have entered Fiona's Birthday on 25 February. You know Fiona appears in the Diary somewhere, but you don't remember the date. Now in your extensive Diary file, the note is difficult to find.

When the main Diary command menu is displayed, press **[S]** to select the Search command.

The screen shows:



You may now type the text you want to find. In this case, type:

fiona

and press any of these keys:

[RTN]	to search in the same direction as the last search(the default is forwards through the file)
[Up Arrow]	to search backwards (towards the start of the file)
[Down Arrow]	to search forwards (towards the end of the file)

The search is case insensitive. That means that if you type fiona as your search string, it will find fiona, FIONA or Fiona.

Your search might find the text 'Clean Fiona's car'. To continue on to the next occurrence of 'fiona', press **[CTRL] [S]** (hold down the **[CTRL]** key and press **[S]**). The cursor moves immediately to the next occurrence of that text. If any search text is not found, a message to that effect is shown on the screen: press **[ESC]** to return to the Diary.

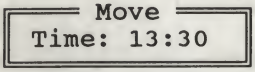
The Move Command

Moving Appointments

This command allows you to move a Diary entry to another date or time within the current Diary. Perhaps you have arranged lunch with Sarah and Jeff at 1:30 pm (13:30) and they call to change it to 12:30.

First go to that entry in the current Diary. When the main Diary command menu is displayed, press **[M]** to select the Move command.

The screen then shows:

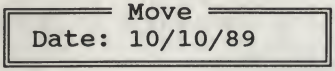


You can now enter a new time for the appointment. In this example, type:

12:30 **[RTN]**

Alternatively you can edit the time by positioning the cursor under the first 3. Press **[DEL]** and then **[2]**.

You are now offered the chance to change the date of the appointment. The screen shows:



In this example, the date of the appointment has not been changed, so you can simply press **[RTN]**. You could, however, move the appointment to another day entirely, by entering the new date in the format shown (mm/dd/yy).

Equally, you could leave the time unchanged, but move the appointment to another day. Just press **[RTN]** when the time is offered, and enter a new date when the date is offered.

Another way to move an appointment to another day (without changing its time) is to simply place the cursor beside the entry to be moved, press **[DEL]** to delete the entry, move to the new date and press **[F4]** (undelete). The entry is then entered at the correct time position in the new day.

Moving Date Headers

If you are moving a date header which has no associated time, only the date window is offered.

There can only be one date header per day, so if the date you wish to move to already has a date header, an error will be displayed:

```
Cannot move - target
day is occupied
```

The Repeat Menu

Any Diary entry may be made to repeat at intervals. This means that if you have lunch every day at 12:25, you can make the entry once by typing:

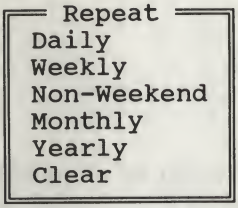
12:25 LUNCH TIME **[RTN]**

and then select Daily from the Repeat menu to make the LUNCH TIME message appear every day. Repeating appointments only appear in the Diary once - at the time of their next occurrence. Every time the Diary is loaded,

any repeated appointments are moved to the next due date. So, when you use the Diary tomorrow, the LUNCH TIME message will have disappeared from yesterday's list and appeared in the list for today!

This means that the Diary is not cluttered up with lists of appointments which recur time after time. It also means that you can make one entry, set it to repeat and it will always be there to remind you on a daily, weekly, week-daily, monthly or yearly basis. Before selecting the Repeat command from the Entries menu, position the cursor on the entry you would like to repeat. When the main Diary command menu is displayed, press **[R]** to select the Repeat command.

The screen then shows:



The options in the Repeat menu are fairly self-explanatory. Select Daily, Weekly, Non-Weekend (Mon to Fri), Monthly or Yearly to set that as the repeat period, or select Clear to cancel a repeating entry.

All repeating entries in the Diary are marked as such at the left of the entry according to the following:

Daily	d
Weekly	w
Non-Weekend	n
Monthly	m
Yearly	y

After making a selection from the Repeat menu, you are returned to the Diary.

Under certain circumstances, you may get warnings about repeated appointments on loading the Diary. If you have set a monthly repeat for the end of a month (for example 31st January), the February date will be set to 28th (or 29th), as there is no 31st February, and a warning will be shown. Note that once moved under these circumstances, the appointment will remain at the earlier date in future months.

You can also set repeats for date headers that have no associated time. There can only be one date header per day, so if an attempt is made to move a repeated date header appointment to an occupied slot, an appropriate warning is displayed.

The Alarm Command

Setting Alarms

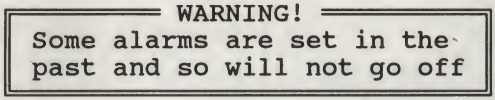
The Alarm command allows you to set an alarm on any Diary entry. However, if you enter and maintain more than one Diary, only alarms in the main Diary file, DIARY.DRY on the path C:\SYSTEM will be sounded by the Portfolio. All other Diary alarms are ignored and a warning will be displayed on quitting the Diary if you are working on any other file with alarms set.

Before selecting the Alarm command from the Entries menu, position the cursor on the entry for which you would like an alarm. So using the example entered in the Repeat command on the previous pages, go to the repeating entry at 12:25, 'LUNCH TIME'.

When you select the Alarm command from the Diary menu, a music symbol is displayed in the left of the entry and beside any repeat indicator.

Alarms may be set on entries regardless of their repeating status.

The alarms can only sound once the DIARY.DRY file has been saved. On saving, a check is made of the alarms, and a warning is given if alarms have been set in the past, as they will not sound:



When an alarm is due, the Portfolio will sound a beep. When the alarm is sounded, the text associated with the alarm is shown on the screen in a window, and the number of unacknowledged alarms. The window will overlay any existing text on the screen. Press **[ESC]** to acknowledge the alarm.

If the Portfolio is switched off when the alarm becomes due, the Portfolio will automatically be switched on and the alarm message displayed. To acknowledge an alarm, press the **[ESC]** key. The Portfolio will return to the activity it was engaged upon before the alarm was sounded.

Clearing Alarms

Alarms may be cleared by reselecting the Alarm command from the Diary menu with the cursor positioned on the Alarmed entry to be cleared.

Multiple Alarms

If an alarm is sounded and then lies on the screen unacknowledged, and another alarm becomes due, the second alarm message will be displayed over the first. To acknowledge the most recent alarm, press **[ESC]**.

The Help Command

Help describes briefly the use of the Diary menu and Diary file handling. For more general help, press **[F2]** at any time while using the Diary.

CHAPTER 7
THE TEXT EDITOR

INTRODUCTION

The Text Editor is an ASCII Text Editor and formatter which allows you to type in documents; search for text; search and replace text; load, save and merge documents and print them out to a parallel or serial printer or to a file.

Documents are stored in ASCII form, and so may be transferred to other applications, both those resident in the Portfolio and others, quickly and easily.

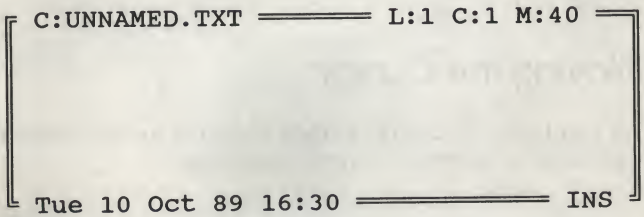
STARTING THE TEXT EDITOR

If the applications menu is displayed, press **[E]** to select Editor, or if you are in another application or within DOS, hold down the ⅄ key and press **[E]**. Alternatively type APP /E from DOS or from a batch file.

USING THE TEXT EDITOR

The Editor Frame

When the Editor is first selected, the screen shows:



The top line shows the default file name, UNNAMED.TXT, and a number of other indicators. These are the position of the cursor in the current document, in the form of a line number and column number, represented by L: and C:.

The top line also shows the current right margin setting (M:). This is only the internal word wrap setting, and has no effect on the printed form of the current document. (See **Print** later in this chapter and **Setup** in **Chapter 8**.)

Note that, like in the other Portfolio applications, as soon as you type any information, altering the current file, the 'changed' symbol appears at the right hand side of the top of the screen frame. (If the frame is Off, press **[F5]** to switch it on to see the changed symbol.)

Initially, the Editor has a margin setting of 40 characters and the word wrap feature is On. This means that when you begin typing, if the margin is set at 40 characters, as you type, when the line reaches the specified length, a new line is automatically started if the current word would extend over the maximum line length.

Insert and Overtype Modes

When you start the Editor, the keyboard will operate in either Insert or Overwrite mode, according to how it was set before the Editor was started. The state of the Insert mode is shown on the bottom of the frame, together with the current date and time, and the status of the keyboard locks (CAPS, NUM and SCROLL). Press [Fn][Del] to change modes.

Moving the Cursor

As you type, producing a body of text, you can move the cursor around the document as follows:

Key	Effect
[Left Arrow]	one character left
[Right Arrow]	one character right
[Up Arrow]	one line up
[Down Arrow]	one line down
[CTRL] [Left Arrow]	one word left
[CTRL] [Right Arrow]	one word right
[PG UP]	three or four lines up
[PG DN]	three or four lines down
[CTRL] [PG UP] or **[CTRL] [A]**	top of file
[CTRL] [PG DN] or **[CTRL] [Z]**	bottom of file
[HOME]	start of line
[END]	end of line

If Insert is on, pressing **[Up Arrow]** or **[Down Arrow]** will return the cursor to the beginning of the next line. In overwrite mode, the cursor will move to the current column position on the next line.

Deleting Text

Text may be deleted from the current document as follows:

[Backspace]	delete character left
[DEL]	delete character right (under cursor)
[CTRL] [HOME] or **[CTRL] [B]**	delete to start of line
[CTRL] [END] or **[CTRL] [E]**	delete to end of line
[CTRL] [L]	delete line
[CTRL] [Backspace]	delete word left
[CTRL] [W]	delete word right

Deletions can be recovered using the Undelete facility (**[F4]**). To manipulate blocks of text, use the Clipboard

([F3]). Both Undelete and the Clipboard are explained in more detail in **Chapter 3**.

Function and Other Keys

Just like the other Portfolio applications, the Editor uses function keys to carry out certain operations. The uses of the function keys are as follows:

[F1] Display the current application main command menu

[F2] Request help on the current application

[F3] Operate the Clipboard

[F4] Recover the previous character or block deleted

[F5] Zoom screen frame on or off

[F6] Reserved

[F7] to **[F10]** are unused in the Editor.

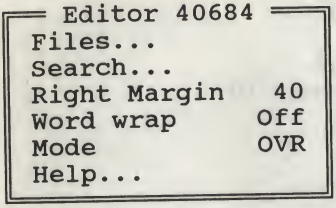
The operation of the Clipboard and undelete function are explained in **Chapter 3**.

The following keys may also be used as shortcuts:

Key Press	Effect
[CTRL] [A]	Go to top of file
[CTRL] [R]	Repeat last search and replace
[CTRL] [S]	Repeat last search
[CTRL] [U]	Go to previous cursor position
[CTRL] [W]	Delete word right
[CTRL] [Z]	Go to bottom of file
[SHIFT] [6]	(^) Insert control character

THE EDITOR COMMAND MENU

The Editor commands are all available by pressing **[F1]**. The screen will then show the main command menu:



The first time you enter the menu, the top line of the window shows the version number of the software. Thereafter the amount of free memory in the Portfolio is shown as a number of bytes.

The Command Tree

The Editor commands may be thought of as forming a 'tree'. Each command followed by a row of dots (...) will, when selected, lead to further menus. Select the item you want by pressing its first letter, and move back up the tree by pressing **[ESC]**.

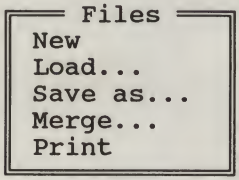
The following diagram shows the command menu tree:

```
Files.....New
          Load
          Save as
          Merge
          Print

Search.....Search (^S)
           Replace (^R)
           Goto

Right Margin

Word Wrap

Mode

Help.....Menus
         File handling
```

Files: New, Load, Save as, Merge, Print

Built into the Files section is an extensive file management program, which enables you to select the files you want quickly, and will protect you against accidental loss of data. (This is explained in more detail in **Chapter 3**.)

Press **[F1]** to view the main command menu and press **[F]** to view the Files menu, which looks like this:



New clears the current contents of the Editor, ready for a new document. If the current file has changed since it was loaded, you are offered the option of saving first.

Load loads in an existing Editor file from any of the available drives. The current file is offered as a default, should you wish to revert to the last saved version. Alternatively enter the drive, path and filename of the file you wish to load. You may also use wildcards (* and ?) to list available files. If the file you wish to load is different from the current file, and changes have been made since loading, you are offered the option of saving the current file first.

On loading a document, the word wrap feature is automatically switched off in case the new file has a different right margin setting. To correct the situation, change the margin setting (with the Right Margin command as described later in this chapter) to that which was used when the file you just loaded was saved. You can then switch word wrap back on (with the Word Wrap command, also described later) and continue editing the file.

Save as saves an Editor file under either the existing name or another name on any of the available drives. The current file is offered as a default. Alternatively enter the drive, path and name of the file you wish to save. You may also use wildcards (* and ?) to list available files. If you wish to save to a file of a different name, you are asked to confirm that the existing file should be overwritten.

When a file is saved, the current margin setting is not saved along with the file, but the last used margin setting IS saved in the PERMDATA.DAT file. This means that if you usually use the same margin setting, your files will always be in the correct format when they are re-loaded.

Merge allows you to merge another Editor file with the currently loaded Editor file, making a new, combined file. Select the file in the same way as SAVE. That file is then loaded and added to the current file, at the current cursor position. The current filename will remain the same, so if you save the combined file, remember to choose a different name to avoid overwriting the original. Merging a file switches word wrap off.

The Merge command may be used any number of times within the limits of free memory available.

Print will print the current Editor file to a printer or to a file. The parameters for this, such as margins and page length are defined in **Setup**, which is explained in more detail in **Chapter 8**.

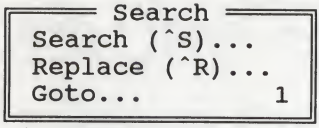
If the document to be printed is more than one page long, the position of the second and following pages can be calculated as follows:

Look in Setup for the Page Length (default 66), and the top and bottom margin settings (defaults 6 and 2 respectively). The second page (using the default values as examples) will therefore start on line 58 (66 less 6 less 2). You can jump from page to page by setting the Search Goto value to +58, and using **[CTRL] [G]**. To force a page break at particular point in the document insert the Control L character by pressing **[SHIFT] [6]** (^) and **[L]** at the desired break position.

The Search Menu

The Search menu contains commands concerned with searching for a particular word or phrase (Search), searching for and replacing one word or phrase with another (Replace), and moving to a specified line in the current document.

The Search menu looks like this:

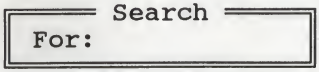


Search (^S)

The Search command allows you to type a word or phrase; the Editor then searches the current document for that word or phrase and, if found, moves the cursor to the start of that text in the document.

When the Search menu is displayed, press **[S]** to select the Search command, or position the cursor over the S of Search and press **[RTN]**.

The screen shows:



You may now type in a word or phrase of up to 16 characters, then press any of these keys:

[RTN]	to search in the same direction as the last search (the default is forwards through the file)
[Up Arrow]	to search backwards (towards the start of the file)
[Down Arrow]	to search forwards (towards the end of the file)

The search is case insensitive. That means that if you type folio as your search string, it will find Folio, FOLIO or Portfolio.

If the text is not found, the message 'String not found' is displayed in a window. Press **[ESC]** to return to the document. The cursor remains where it was prior to selection of the Search command if the specified text is not found.

The Search menu shows, alongside the Search command, the shortform for the Search command, Control S (shown as ^S). To go directly to the Search command without pressing **[F1]** in the usual way, just hold down the **[CTRL]** key and press **[S]**. The Search dialogue box will be displayed if no search string has previously been specified.

Note that when the Search command has been used in an editing session, the Search menu shows the last-used search string alongside the Search command. For example, if the last-used search text was 'loss', the Search menu shows:

```
Search
Search (^S) loss
Replace (^R)...
Goto...
```

Replace (^R)

The Replace command allows you to search for a word or phrase and, if the text is found, replace it with another word or phrase.

For example, to replace all occurrences of the word 'loss' with the word 'profit', press **[F1]** to view the main Editor command menu. Press **[S]** to select the Search menu and **[R]** to select the Replace command.

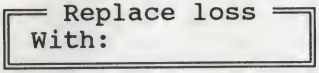
The screen shows:

```
Search
For:
```

Now type:

loss **[RTN]**

The screen shows:



Now type:

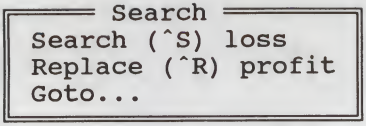
profit **[RTN]**

The cursor immediately moves to the first occurrence of the word 'loss' in the current document, replaces it with the word 'profit' and, if the Word Wrap facility is switched on, reformats the paragraph in which the substitution took place. If Word Wrap is switched off, the paragraph is not reformatted after the substitution is made.

As with a simple search, if the text is not found, the message 'String not Found' is displayed in a window. Press **[ESC]** to return to the document. The cursor remains where it was prior to selection of the Replace command if the specified text is not found.

To search for, and replace, the next occurrence of the text last specified for the Replace command, simply press **[CTRL] [R]**. The cursor moves immediately to the next occurrence of the given string and replaces it with the given substitute string.

Note that when the Replace command has been used in an editing session, the Search menu shows the last-used search string alongside the Search command and the last-used substitution string alongside the Replace command. For example, if the last-used replacement was 'profit' for 'loss', the Search menu shows:



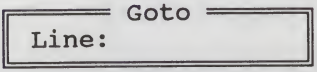
Technical Note: You can use the Replace command to replace control characters as well as normal text. Insert the control character in the usual manner by pressing **[SHIFT] [6]** (^) followed by the control character. For example, the document you are working on is a list of files you want to delete using a batch file. In the Search window type **[SHIFT] [6]** (^) and M (the carriage return), and in the Replace window, type ^Mdel **[SPACE]**, **[RTN]**.

Goto

The Goto command allows you to go to any line in the current document by specifying a line number.

When the Search menu is displayed, press **[G]** to select the Goto command.

The screen shows:



You may now type a line number and press **[RTN]**. The cursor will immediately move in the current document to the line number specified. If the line number specified is greater than the number of lines in the current document, the cursor is moved to the end of the file.

To move a number of lines relative to the current cursor position, (for example go down 20 lines), precede the number with a minus sign '-' to go back up the document or a plus sign '+' to go down the document.

The Goto command can be repeated by pressing **[CTRL]** and **[G]**.

The Right Margin Command

The Right Margin command allows you to set the margin at which the word wrap feature breaks lines (if switched on with the Word Wrap command described below). The current right margin setting is shown alongside the command in the main command menu.

When the main Editor command menu is displayed, press **[R]** to select the Right Margin command.

The screen shows:

```
Right Margin
Set to (5-250):
```

You can now type in a new right margin setting in the range 5 to 250, and press **[RTN]**. You are returned to the current document.

If you are preparing a document that will be printed out on normal 80 column paper, the Right Margin command can be used to make the document easier to edit. During text editing, setting the Right Margin to about 40 (with Word Wrap on) will keep all the text visible while you type. When you have finished, set the Right Margin to the desired print width (e.g. 60). The document will then be printed out correctly on a printer.

The Word Wrap Command

The Editor can either be used for unrelated lines of text, such as a list, or for preparing documents such as letters.

In the first case word wrap should be set to off, so that lines are never merged into paragraphs.

Word wrap brings a whole word down on to a new line once you start typing outside the right margin, and therefore automatically formats paragraphs in letters. With word wrap on, paragraph reformatting is handled automatically by the Editor.

So that the text remains within the screen, it is advisable to set the right margin to 38 or 40, as this is the column position where a word is automatically brought to the next line.

The word wrap position applies to the whole document, not to individual paragraphs.

Note that word wrap is turned off on loading or merging a file. If the last document you saved had the margin set at 40 characters, and you then load a document which was saved with a 30 character margin, the file will be loaded in the format in which it was saved, but the margin will still be set to 40 characters.

To correct the situation, change the margin setting (with the **Right Margin** command as described in this chapter) to that which was used when the file you just loaded was saved. You can then switch word wrap back on and continue editing the file.

When the main Editor Command menu is displayed, press **[W]** to select the Word Wrap command.

The current state of the Word Wrap command is shown alongside the command in the main Command menu, and a left pointer is displayed at every paragraph end.

The Help Command

Help within the menu provides guidance through the menuing system and on file handling. For more general help, press **[F2]** at any time while using the Editor.

CHAPTER 8
THE SETUP FACILITY

INTRODUCTION

The Setup facility allows you to set a number of hardware and software parameters, tailoring the Portfolio to your exact needs.

The facilities within Setup include the type of display, use of sound, type of printer, communications settings, language and a built-in file transfer function.

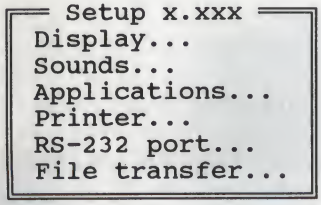
Most of these parameters need only be set once, so that your Portfolio is always ready to carry out whatever tasks you have in mind.

STARTING SETUP

If the Applications menu is displayed, press **[S]** to select Setup, or if you are in another application or within DOS, hold down the ⅄ key and press **[S]**. Alternatively from DOS or a batch file, type APP /S.

USING SETUP

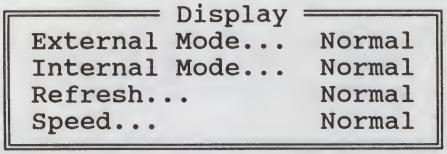
When you first select Setup from the Applications menu, you are shown the Setup main menu:



Just off the screen, below File transfer, is the Help command providing help on the main menu commands.

The Display Settings

The Display option in the Setup menu allows you to choose between a number of display modes. Selecting this option will show:



External and Internal Modes

The External mode is the display mode used by the Portfolio when running external applications. For example, you might run BASIC on the Portfolio, from a memory card. When the Portfolio starts the BASIC.COM program, the screen display used is taken from the External Mode setting.

The Internal mode is the mode used when typing commands into DOS.

When you select the External or Internal mode commands, three choices are offered:

- Normal (40x8)
- Static PC (80x25)
- Tracked PC (80x25)

Normal display uses the 40 column, 8 line display only. Static PC uses the full 80 column by 25 line screen, allowing you to move a 40 by 8 window around the full

screen. Tracked PC also uses a 40 by 8 window on the 80 by 25 screen, but the window automatically follows the cursor around the larger screen.

The settings of External mode and Internal mode need not be the same.

When using Tracked PC or Static PC mode, to move the 40 by 8 window around the full 80 by 25 screen, the following keys are used:

[ALT] + a cursor key	One column or one line
[FN] [ALT] + a cursor key	20 columns or 6 lines

When you terminate an external program and the Internal and External modes are different, a message is displayed on the screen. The message says "Press any key to continue" and is needed for external programs which execute leaving information on the screen. This information may be read using the **[ALT]** key together with the cursor keys.

If you use only the Portfolio's built-in applications, you should leave both External mode and Internal mode set to Normal.

Refresh

Some programs display information on a PC screen by placing the information directly into the screen's own area of memory. It only becomes visible on the Portfolio screen when it 'refreshes' the screen from this area of memory. The Refresh option allows you to change the way in which the screen is refreshed. Note that the screen is also refreshed whenever the **[LOCK]** key is pressed.

There are three refresh modes:

Normal: No refresh is performed. The Portfolio assumes you are using only the built-in applications, which display

information on the screen without reference to the refresh mechanism.

Timed: The screen is refreshed at intervals set by the Speed setting in the Display menu.

Keys: The screen is refreshed whenever the current program waits for a key press, but not during processing. This is the recommended setting when running external programs.

Both: The screen is refreshed whenever the current program waits for a key press, AND at the interval set by the Speed setting in the Display menu.

Speed

The screen may be made to refresh at either of two intervals: Normal and Fast. The Normal setting refreshes the screen once every 128 seconds. The Fast setting refreshes the screen once a second.

Note: While the Fast setting may appear to be the better option of the two, this does require the Portfolio's processor to carry out a lot more work, just in refreshing the screen. This drains the battery faster. Only select Fast if your application really needs a rapid screen refresh rate.

Sounds

The Sounds option allows you to switch on or off the Portfolio's alarms, key click and buzzer, either individually or as a group.

The Sounds options are as follows:

Key Click

When using the Portfolio's keyboard, each key responds with a faint click. This click can be toggled on or off. The default key click setting is ON.

Alarms

The Portfolio's Diary may be set to sound an alarm at any given time. These alarms may be made inaudible by selecting the Alarms option. When alarms are switched off, the alarm message will still be displayed on the screen when an alarm becomes due, but the alarm will not sound. The default alarm setting is ON.

Buzzer

At various times when using the built-in applications and when using external programs, the software may sound a buzzer. Whenever an error message is produced within an application, the buzzer is briefly enabled. The use of this buzzer may be switched off or back on again by selecting the Buzzer option. The default buzzer setting is ON.

Mute Toggle

Sometimes it might be useful to silence the Portfolio altogether, for example when attending a meeting. The Mute Toggle option allows you to switch all three sound settings to off, or back on again, in a single operation.

Applications

The Applications menu allows you to set a number of operating features of the built-in applications and the Portfolio itself. There are four options in the Applications menu:

Clipboard Save

The Clipboard Save option allows you to toggle on or off the saving of the contents of the Clipboard in the file CLIPBORD.DAT at the end of a session. The maximum size of the Clipboard is 8k.

To prevent disk space from being used in this way either empty the Clipboard by selecting Mark and Store at the same point or set the Clipboard Save option to Off. The default Clipboard Save setting is ON.

Undelete Save

The applications also use a file to store all data deleted by key presses and commands. The data are added to a file called UNDELETE.DAT. If left to its own devices, this file will occupy increasing amounts of room up to a maximum of 2k. To prevent the undelete buffer from using up disk space either delete the file from DOS by typing DEL UNDELETE.DAT or set the Undelete Save option to Off. The default Undelete Save setting is ON.

Language

The Portfolio is equipped with software, both DOS and the applications, which will operate in English, French and German. The Language option allows you to change from one language to another.

When you select Language from the Applications menu, whatever the current language, the screen shows:

```
Language
English
Français
Deutsch
```

You may now select a language from the three offered. You are then returned to the Setup menu displayed in the chosen language. The English version is shown earlier in this chapter. These are the French and German versions:

```
Systeme
Ecran...
Sons...
Programmes...
Imprimante...
RS-232...
Transfert fichiers...
```

French

```
System
Bildschirm...
Tone...
Programmes...
Ausdrücken...
RS-232...
Dateienübertragung...
```

German

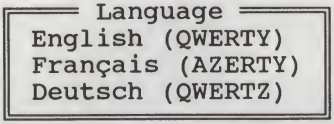
Notice that the options in the menu do not start with the same letter in each language. This may lead you into trouble if you are not able to change the language back to one you can understand. For those in difficulty, the way back is to invoke Setup as usual, then press **[P]** for Programmes then **[L]** for Langue or **[S]** for Sprache.

Keyboard

Along with the ability to change the Portfolio's operating language as described above, you can also change the layout of the keyboard. Although the keys physically remain in their usual places, the characters generated can

be changed to follow the French or the German keyboard layouts.

When you select the Keyboard option from the Applications menu, the screen shows:



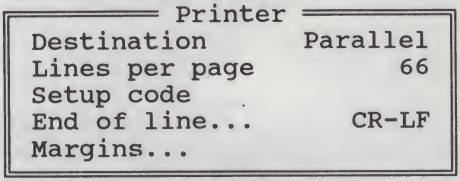
Alongside the language options are the first six keys on the top row of the alpha-keyboard in that language. Select a keyboard layout in the usual way.

Printer Settings

The Printer menu allows you to set a number of values used when sending data to a printer. You can instruct the Portfolio to print to a serial or parallel printer, or print to a file which can be sent to a printer later; you can set the number of lines per page, a Setup code to put your printer into a particular print mode, the type of end-of-line character required and the size of the margins.

To attach a printer to the Portfolio, you will need one of the Portfolio communication units.

The Printer menu is as follows:



Destination

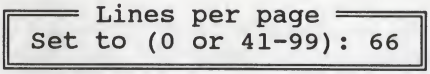
The Portfolio can print to a serial or parallel printer or to a file for later output.

If you select either Serial or Parallel, all subsequent printer output is directed to the type of printer selected.

If you select File, the screen will prompt you for a filename where all printed output will be sent. If the file which is specified already exists, the printed data will be appended to the end of that file. All printed output ends with a Form Feed (ASCII 12) character.

Lines per page

The Lines per page option allows you to specify the number of lines on the paper loaded in your printer. When you select Lines per page from the Printer menu, the screen shows:



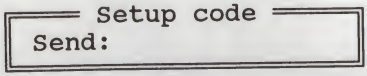
You can set the number of lines per page to 0, in which case no page breaks are inserted (use this setting only if you are using continuous stationery), or to a number in the range 41 to 99 according to your paper length.

Type the number of lines and press **[RTN]**.

Setup code

The Setup code option allows you to send a preamble sequence of characters to the printer to set it into a suitable print mode. For example, you might have a printer which requires the characters Escape E to select emphasised print.

Select Setup code from the Printer menu. The screen shows:



You can now type a Setup sequence of up to 128 characters. To enter unprintable characters, for example the Escape character (ASCII 27), type a backslash (\) followed by the ASCII code for the character, with leading zeros to make three characters. Alternatively, for the first 26 ASCII characters, type **[^]** (**[SHIFT]** + **[6]**) followed by a letter. So for Control B, ASCII 02, type **[^]** then **[B]**.

Using the example mentioned above, to enter Escape E using a three digit ASCII code for the Escape character, at the Send prompt, you should type:

\027E **[RTN]**

You are returned to the Printer menu. Alongside the Setup code in the menu, the first four characters of the preamble sequence are displayed. This preamble will be used for all subsequent print operations until the sequence is deleted or changed.

Refer to your printer manual for details of commands which can be used to affect the print style.

End of line

Some printers expect the end-of-line marker to take the form of a carriage return (CR) or a line feed (LF) or both in either order. The End of line option allows you to set the appropriate end of line for your printer. The correct end of line marker can be found in your printer manual.

The three options are:

- CR a single carriage return
- CR-LF a carriage return and a line feed
- CR-LF-LF a carriage return and two line feeds.

If you are not sure which setting to use, try CR-LF first (the default). If the text is printed out and every other line is a blank line, set this to CR. To print double spaced text, set this option to CR-LF-LF.

Margins

The Margins option in the Printer menu allows you to set the margins used when files are printed from within the applications.The top, bottom and left margins can be set to be any value in the range 0 to 20. The right margin is not set using Setup. That margin is set individually by each application.

The left margin is the number of columns which are unused between the left edge of the page and the main body of text. The default is 8.

The top margin is the number of blank lines between the top of the paper and the text, the default being 6.

The bottom margin is the number of blank lines below the text before the bottom of the paper. The margin default is 2 lines.

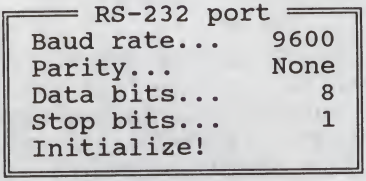
The number of lines printed on each page is determined by the top margin, the bottom margin and the Lines per page command described above. The number of lines per page includes the top margin and the bottom margin. Since this default is 66, the default number of text lines on each page is 58.

The RS-232 Port Settings

The RS-232 option in the Setup menu allows you to set the serial communications settings used when the Portfolio RS-232 port is connected.

A full description of the use of the RS-232 port is included with that product, but the communications settings are made from within the Setup RS-232 option.

When the RS-232 option is selected, the screen shows:



The settings and their allowed values are shown below. In each case the default setting is shown as the first value in the list.

Setting	Allowed values
Baud rate	9600, 4800, 2400, 1200, 600, 300, 150, 110
Parity	None, Even, Odd
Data bits	7, 8
Stop bits	1, 2

In each case, the settings shown can be selected from their respective menus in the usual way. When any of the settings have been made, to register the changes in the communications unit, WHEN THE UNIT HAS BEEN FITTED, YOU MUST SELECT INITIALIZE! If you make changes to the settings and then return to the Setup menu without using Initialize! the new settings will not be available to the communications unit and communications may fail.

The File Transfer Facility

The Setup menu contains a facility for transferring files from the Portfolio to a desk-top PC via the Portfolio's parallel communications port (when fitted). The File Transfer menu allows you to:

- Transfer a file to another computer via the parallel port
- Receive a file from another computer via the parallel port
- Connect to another computer which will issue instructions.

Do not attempt to use any of the facilities in File Transfer without first attaching one of the optional communications units.

CHAPTER 9
THE WORKSHEET

INTRODUCTION

The Atari Portfolio has a built-in spreadsheet program which has many of the features of the industry standard, Lotus 1-2-3. The Portfolio Worksheet can load and use .WKS and .WK1 files created in Lotus 1-2-3.

This allows you to create a Worksheet file in Lotus 1-2-3 on your desk-bound PC, transfer the file to the Portfolio and take it with you wherever you go.

STARTING THE WORKSHEET

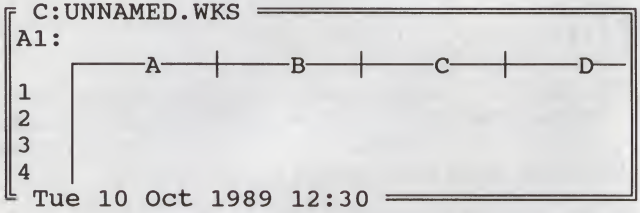
If the Applications menu is displayed, press **[W]** to select Worksheet, or if you are in another application or within DOS, hold down the ⅄ key and press **[W]**. Alternatively from DOS or a batch file, type APP /W.

THE GRID

A spreadsheet program like the Worksheet takes the form of a grid. The grid comprises a number of rows and columns of cells. The Portfolio Worksheet is 127 columns wide and 255 rows deep. Each cell may contain a piece of text, a number or a formula. The cells may be linked to each other so that the result of one cell can be accessed by other cells. This allows large formulae to be created from groups of small formulae.

Entering Data

When the Worksheet is first entered, the screen looks like:



Each of the columns have an alphabetic header. The first column in the grid is labelled 'A', the second 'B' and so on. Each row is labelled by a number. The first row being called '1'. The cursor is initially placed in the first column in the first row. This is called "cell A1". The column name followed by the row number is the cell reference and that is how the cells are referred to.

The cell reference of the current cell is always displayed on the top line.

Text

Text can be entered directly by typing the text in. Try typing in your name, say, John. When the name is typed, the cursor moves from cell A1 in the body of the grid, up to the top line. When **[RTN]** is pressed, the text is transferred down into cell A1 in the grid.

The contents of the cell is now shown alongside the current cell on the top line.

Your name has now been entered into the Worksheet as a piece of text.

You can control the display of the text within the cell in four different ways by preceding the text with a specified

character. The following list gives the characters and their effect on the text display.

'	left aligns the text within a cell (the default).
^	center aligns the text
"	right aligns the text
\	Duplicates the text for the entire column width.

Text strings may be up to 240 characters long.

Numbers and Formulae

Numbers and formulae are typed directly into cells just like text. However, the Worksheet will assume text is being typed unless the first character is one of the following:

+ - 0 1 2 3 4 5 6 7 8 9 (@ #

or the decimal point character (usually a period).

As an example, we'll type in some numbers and add them together. First, move the cursor to cell B1 by pressing the right cursor key. Now type 27. When you press **[RTN]**, the number 27 appears in the grid under B1. Now go to cell B2 by pressing the down cursor key. Type 15, but this time, don't press **[RTN]**, press the down cursor key. 15 is entered into B2 and the cursor moves to B3. If entry is terminated by any movement commands, the entry is made followed by the movement.

We have now entered two numbers. To add them together, we need to enter a formula which includes two cell references since we want to refer to cells B1 and B2.

To enter the formula, start by typing a plus sign (+), then press the up cursor key. This goes into "range painting" mode. A double lined box appears surrounding cell B2 and the text "B2" appears on the top line after the + sign.

Range painting is a very convenient way of entering cell references. Now type another + sign. This removes the double lined box putting the cursor back on the top line which now says "+B2+". Press the up cursor key again and the double lined box reappears. Press the key a second time, and the box will move up to surround cell B1 with the text "B1" being added to the formula on the top line. Now, with the text "+B2+B1" on the top line, press **[RTN]**. A formula adding the two numbers together is entered into cell B3 and the number 42 appears.

Range painting can be entered whenever a movement key is pressed, and the top line of the display ends in one of the following characters:

+ - * / = < > , # ^ (

Formulae may contain numbers, operators, functions and cell references and they can be up to 240 characters long.

Numbers must fall into the range plus or minus 9.999 to the power 99.

The operators are as follows, in decreasing order of precedence:

^	powers
+ -	unary plus, unary minus
* /	multiply, divide
+ -	add, subtract
> < = <= >= <>	relationals
#NOT#	logical NOT
#AND# #OR#	logical AND, logical OR

Operators of the same precedence are evaluated from left to right within a formula.

The cell references and functions are explained later in this chapter.

Deleting Data

To delete the contents of a single cell, move the cursor to that cell and press the **[DEL]** key. To delete the contents of a range of cells, use the **Erase** command, described later in this chapter.

To delete the entire contents of the grid, use the **New** command or the **Worksheet Erase** command which are both described later in this chapter.

Data which is deleted may be recovered by pressing the undo key, **[F4]**. (See **Chapter 3** for more information on the UNDELETE buffer.)

Editing Data

If the contents of a cell need to be altered, move the cursor to that cell then press **[RTN]**. This places the cursor at the end of the top line ready to edit the contents. When the alteration has been made, **[RTN]** will enter the new cell as before.

Cell References

A single cell references takes the form of one or two letters in upper or lower case followed by one, two or three digits. For example:

A1	cell 1 in column A
df123	cell 123 in column DF

If two cell references are used together, they refer to a range of cells. A range may consist of cells in just one column or just one row, or a rectangular block of cells spread over a number of adjacent rows and columns. The extent of a range is defined by the cell references of the

top left cell and bottom right cell, separated by two dots (..). For example:

A1..D4	cells 1 to 4 in columns A to D
B7..B15	cells 7 to 15 in column B
B7..G7	cell 7 in columns B to G

Cell references may take one of three forms:

1. relative cell references
2. absolute cell references
3. mixed cell references.

Relative Cell References

The Worksheet treats all cell references, unless you indicate otherwise, as relative. This means if you type +B1 into cell B2 the Portfolio doesn't remember "B1", it remembers "go up one cell from the current cell and remain in this column". Similarly, if you enter +C4 in cell A1, the Portfolio remembers go right two columns and down three rows from the current cell. This difference is most noticeable when using the Copy command.

Absolute Cell References

An absolute cell reference is one where the Portfolio remembers the cell reference as it was typed. To enter an absolute cell reference, precede both the column letter and the row number with a $ sign. For example, B2 is an absolute cell reference giving cell B2.

If the cell containing B2 is copied to any other cell in the grid, the new cell will still refer to cell B2.

Mixed Cell References

A cell reference may use a relative reference for its column and an absolute reference for its row, or vice

versa. For example, if $C4 is entered in cell A1, the Portfolio remembers "go to column C then go down three rows from the current row". Similarly, if C$4 is entered in cell A1, the Portfolio remembers "go to row 4 then go right 2 columns from the current cell".

Moving Around

The following keys can be used to move around the spreadsheet:

[Right Arrow]	move one cell right
[Left Arrow]	move one cell left
[Up Arrow]	move one cell up
[Down Arrow]	move one cell down
[TAB] or **[CTRL]** **[Right Arrow]**	move one screen right
[SHIFT] **[TAB]** or **[CTRL]** **[Left Arrow]**	move one screen left
[PG UP]	move two thirds of one screen up
[CTRL] **[PG UP]**	move to row 1 in the current column
[PG DN]	move two thirds of one screen down
[CTRL] **[PG DN]**	move to last used row in current column.
[HOME]	move the cursor to cell A1.

The **[END]** key allows a further degree of movement when used in combination with any of the four cursor keys or the **[HOME]** key.

When **[END]** is used with any of the four cursor keys the cursor moves in the direction pressed until the first or last

cell in a group of cells is found. If the left or right cursor key was pressed, then the group of cells are all in the same row. If up or down was pressed, the group of cells are all in the same column.

The cursor stops at the edge of the grid if no more groups of cells are found.

When the sequence **[END] [HOME]** is typed, the cursor moves to the cell giving the furthest extent of the spreadsheet this session.

When the **[END]** key has been pressed, a right arrow appears at the top left of the screen, until the sequence is completed with another key.

Function Keys

Just like the other Portfolio applications, the Worksheet uses the function keys to carry out certain operations. The uses of the function keys are as follows:

[F1] or **[/]** ⅄	Display the Worksheet main command menu
[F2]	Request help on the Portfolio and application
[F3]	Operate the Clipboard
[F4]	Recover the last deleted character or block
[F5]	Zoom the screen frame on or off
[F9]	Recalculate the current Worksheet
[F10]	Window flip (see the Window Flip command)

[F6] to **[F8]** are not used in the Worksheet.

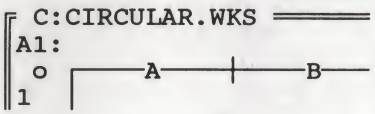
See **Chapter 3** for further information on using the function keys **[F1] to [F5]**. The use of these keys is the same in all of the Portfolio applications.

Circular References

A circular reference occurs when a formula in a cell refers to that same cell. For example, cell B2 contains the formula (B2+1). The formula is attempting to both read and write to a cell at the same time.

Circular references may be more complex. For example, Cell B2 might contain the formula (C2+1) and C2 might contain the formula (B2+1). Again, the Worksheet is being asked to both read and write to a cell, or two in this case, at the same time.

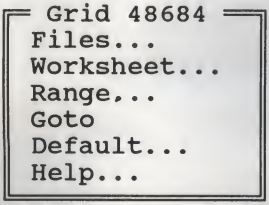
In the event of a circular reference being created in your Worksheet, the top left corner of the screen will display a small circle just below the current cell reference, like this:



Circular references can be useful for automatically incrementing a cell's value, but in most cases, they indicate an error in the construction of your spreadsheet.

THE WORKSHEET COMMAND MENU

The main Worksheet menu is displayed when either **[F1]** or **[/]** or ⅄ is typed. The screen will show:



The first time the menu is called up, the top part of the frame will give the Worksheet version number. Every other time it shows the amount of free memory available.

The Command Tree

The Worksheet commands may be thought of as forming a 'tree'. Each command in the menu may lead to a further menu of options. These may lead to further menus.

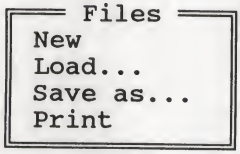
The following diagram shows the command menu tree:

Files.....	New
	Load
	Save as
	Print
Worksheet.....	Recalc On / Off
	Titles Off / On
	Insert
	Delete
	Window
	Erase
Range.....	Copy
	Erase
	Width
	Format
Goto	
Default.....	Decimal Point
	Text Align
	Width of col
	Autoload
	Format
	Currency
Help	Worksheet Menus
	File Handling
	@ Functions

Files: New, Load, Save as, Print

Built into the Files section is an extensive file management program, which enables you to select the files you want quickly, and will protect you against accidental loss of data. (This is explained in more detail in **Chapter 3**.)

Press **[F1]** to view the main command menu then press **[F]** to view the Files menu, which looks like this:



New clears the current spreadsheet with most settings returned to the default values; i.e. columns 9 characters wide, general numeric format and so on. The currency symbols, the autoload flag, the decimal point character and the default print width remain unaltered. If the current file has changed since it was loaded, you are offered the option of saving first.

Load loads in an existing Worksheet file from any of the available drives. When entering a filename, you do not have to include the file extension if the file has the extension .WKS. This is assumed by the Worksheet for all Load operations. If a .WK1 file is loaded, the Worksheet may give the following message:

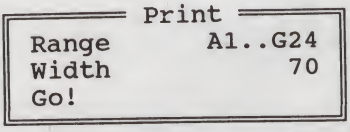
WARNING! Some data cannot be loaded

This means that the Worksheet came across an unsupported function and can happen if the .WK1 file was created in Lotus 123 release 2 or above. Each formula

containing an unrecognised function is converted to @ERR.

Save as allows you to save a Worksheet file under either the existing name or another name on any of the available drives.The current file is offered as a default. Alternatively enter the drive, path and name of the file you wish to save. You may also use wildcards (* and ?) to list available files. If you wish to save to a file of a different name, you are asked to confirm that the existing file should be overwritten.

Print will display the following menu:



The Range option allows you to select a range of cells to be printed. The default is a rectangular block of cells enclosing every cell used in the current Worksheet, and whose top left corner is cell A1.

The Width option allows you to specify how many characters wide the output will be. The default is 70 columns. If your printer can be set to print more than 80 columns to a page or if the paper is more than 80 columns wide, this figure may be increased to a maximum of 240.

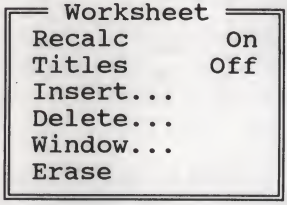
When you have set an appropriate range and width to be printed, select Go! The selected range is printed to the destination specified in the Setup option in the main Applications menu.

If the spreadsheet is too wide to fit on one page, the spreadsheet is printed in vertical slices, each slice fitting on the page widthways.

If a **[CTRL] [L]** (^L) is inserted into a cell, then when the spreadsheet is printed, a Form Feed will be executed on the printer.

The Worksheet Menu

The Worksheet menu contains commands affecting the entire Worksheet and it looks like this:



Recalc

When Recalc is set to ON, the default, the spreadsheet is recalculated every time a cell is inserted, changed or deleted.

If a large amount of formulae are to be entered into the Worksheet, the recalculation can be set to OFF. The Worksheet will then only recalculate when Recalc is turned on, or **[F9]** is pressed.

If Recalc is turned off, and the spreadsheet is altered, the Sigma character appears in the top left of the display. This indicates that some of the results in the spreadsheet may be incorrect. If **[F9]** is pressed, the spreadsheet is recalculated and the Sigma removed.

Titles

The Titles command turns titles on or off.

Titles are one or more rows or columns that you want to be visible at all times, wherever you are in the current spreadsheet.

For example, column A of your spreadsheet might list the components of a piece of machinery. Columns to the right may contain the prices for those components. As you move across the spreadsheet to the right, column A is scrolled out of view. You can use the Titles command to force the Worksheet to display the components, i.e. column A, wherever you are in the current spreadsheet.

Similarly, you can set row 1 of the Worksheet to be visible at all times. It is also possible to have more than one row or column, or a number of rows and columns permanently displayed on the screen.

To set titles, move the cursor to the first cell below and to the right of the rows and/or columns which are to remain visible at all times. Select Worksheet Titles to toggle the state to ON. If the cursor is now moved down the spreadsheet, all the rows which were above the cursor when titles were turned on, remain on the screen. Similarly, if the cursor is moved to the right, all columns which were to the left of the cursor when titles were enabled will remain on the screen.

The cursor can only be moved into the area above and to the left of the cell where titles were set by using the Goto command. The **[HOME]** key will return you to the cell where titles were set.

If the cursor is in row 1 when the titles are turned on, the columns to the left of the cursor form the titles. This is sometimes called "Vertical titles". If the cursor is in column A when the titles are turned on, the rows above the cursor

form the titles. This is referred to as "Horizontal titles". No titles are set if the cursor is in A1 when titles are turned on.

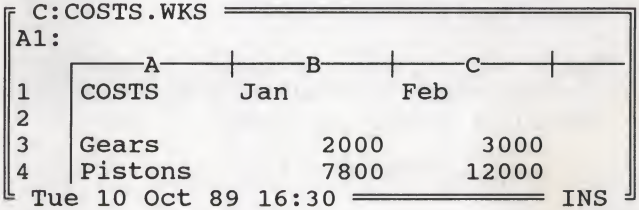
The Worksheet automatically turns the titles off if it is impossible to display them. This may occur when setting column widths.

Insert

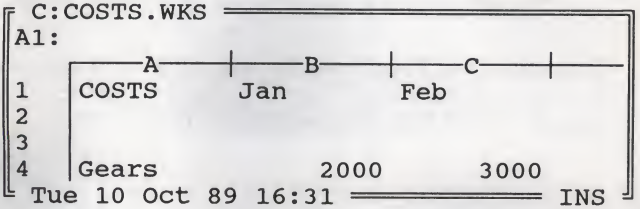
This command allows new columns or rows to be inserted into the spreadsheet.

Before selecting the command, position the cursor on the row or column you want to be pushed down or across by the insertion of one or more new rows or columns.

For example, in this Worksheet:



To insert a new, blank row between rows 2 and 3, position the cursor anywhere on row 3. Select Worksheet Insert Row and a double lined box appears surrounding the cursor. This box can be stretched vertically by using the cursor keys to select the number of rows to insert. When **[RTN]** is pressed, the screen shows:



All new rows are inserted above the top row specified when range painting. All new columns are inserted to the left of the leftmost column specified when range painting.

When you insert new rows or columns in the spreadsheet, formulae which call on the values of other cells in the spreadsheet are automatically adjusted so that the correct cell reference is always used.

If there are some cells in the bottom rows of the spreadsheet when attempting to insert rows, or in the rightmost columns when inserting columns, The following error message may appear:

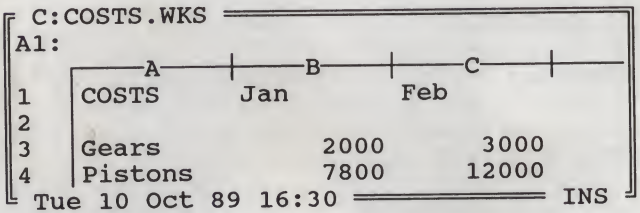
Too many Cols or Rows

Delete

The Delete command allows entire rows or columns to be deleted from the Worksheet.

Before selecting Worksheet Delete, position the cursor on the row or column you want to be deleted, or if more than one, on the topmost row or leftmost column.

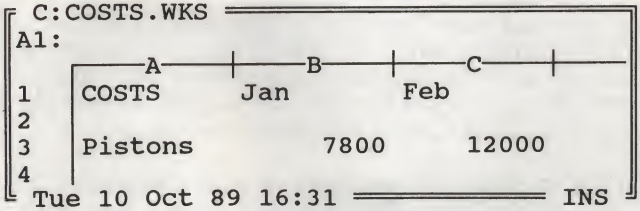
For example, in this Worksheet:



To delete row 3, first position the cursor anywhere on row 3. Select Worksheet Delete Row and a double lined box appears. This box can be stretched to encompass all the

rows or columns which need deleting. In this case, when **[RTN]** is pressed, row 3 will be deleted.

If the original row 5 is blank, the screen will show:



All formulae which reference cells "crossing" the rows or columns deleted are automatically adjusted to reference the correct cells.

All cell references to cells which were in the rows or columns deleted will be converted into the error value @ERR.

Window

The Window option allows you to mark a cell in the spreadsheet which can be revisited by pressing **[F10]**. It also allows you to flip between two areas in the spreadsheet.

To mark the cell which you would like to revisit, move the cursor to that cell and select Worksheet Window Mark. If you now move away from the cell and select Worksheet Window Flip, or **[F10]**, you will be returned to the marked cell.

If **[F10]** is pressed again, the cursor returns to the cell you were in when the first **[F10]** was typed. This can also be achieved by typing ^U, which returns to the previous cursor position.

If no mark has been set in the spreadsheet, pressing **[F10]** will return you to cell A1.

Erase

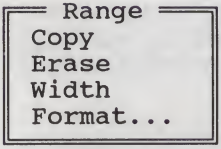
When the Erase command is selected, the entire contents of the spreadsheet is discarded. Also, the column widths are set to 9, the numeric display format set to General, default text alignment set to left, and the window mark is set to A1. The current filename is maintained.

If the spreadsheet has changed in any way since the last save or load, you will be asked to confirm the command.

The Range Menu

The Range menu contains commands concerned with copying, erasing, setting the width of and setting the numeric format of ranges of cells.

The Range menu deals with commands which act over a range of cells and it looks like this:



Copy

The Copy command is used to copy the contents of a block of cells from one position in the spreadsheet to another. To use Copy, you must specify a source range of cells, and a destination.

Before selecting Range Copy, position the cursor on one corner of the rectangular block of cells whose contents you want to copy. This is the source range. It may be a large area of the Worksheet, several columns by several rows. It may also be a number of cells in a single row or in a single column or even a single cell.

The screen then shows the current cell surrounded by a double lined box. This is called the anchor cell. The window can then be expanded up or down and left or right using the cursor keys, to cover however many cells you want, in however many rows or columns. As you expand the window, the anchor cell, as the name suggests, remains static. Even if you move first down and then up past the anchor cell, it will always mark one corner of the range to be copied.

As the window is expanded, the range of cells covered by the window is shown at the top right of the screen. For example:

Copy From: B2..F7

Note: You can move the anchor cell after you have selected the Copy command, by pressing **[ESC]**. The anchor cell window disappears; now press any of the cursor keys and it reappears and may be moved to another cell in the grid. As you move the anchor cell around the grid, its current position is shown at the top right of the screen.

When you reach the new position for the anchor cell, press **[.]**. The top right of the screen now shows, for example:

Copy From: D5..D5

You may now expand the range out to cover the area of the grid to be copied, as described above.

When you have defined a block of cells to be copied, press **[RTN]**. The cursor is repositioned on the anchor cell.

Now move to the top left cell of the range of cells you would like the source range to be copied to - the destination range.

The destination range is specified in exactly the same way as the source range as described above.

Note that if the source range occupies only one column, it may be copied to many columns; if it occupies only one row, it may likewise be copied to many rows. However, if the source range occupies more than one row or more than one column, it will only create a similarly sized range.

In this manner, it is possible to duplicate a cell, row of cells or column of cells.

Erase

The Erase command is used to erase the contents of a block of cells anywhere in the spreadsheet.

Before selecting the Range Erase command, first position the cursor on one corner of the rectangular block of cells whose contents you want to erase. The block of cells may be a large area of the spreadsheet, a single row or column or it may be just a single cell.

When Range Erase is selected, the current cell is surrounded by a double lined box. This box can be expanded by using the cursor keys to cover the range of cells you wish to delete.

When the box surrounds all the chosen cells, press **[RTN]**. The data and formulae in the cells are discarded. If you change your mind, the cells can be recovered by using the Undelete function (**[F4]**).

Width

The Width command allows you to set the width of one or more columns to between 1 and just less than the screen width (34 characters).

Before selecting the Range Width command, position the cursor on any cell in either the leftmost or rightmost column of the range whose width you want to change.

When Range Width is selected, the screen enters Range Painting mode. Paint the range of columns using the left or right cursor keys. When you have selected the columns, press **[RTN]**.

You will then be asked for the new width of the selected columns. The default offered is the width of the current column. Enter a new column width in the range 1 to 34 and press **[RTN]**.

The width of the specified columns is changed to the new value.

See also the **Defaults** command described later in this chapter.

Format

The Format command allows you to set the display format for a range of cells. The display format of the current cell is displayed alongside the current cell indicator at the top left of the screen if it is different to the default.The display formats and their indicators are given below, in the examples the cell contains 3000.

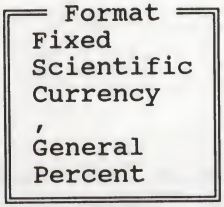
Display Type	Indicator	Example
Fixed	(F3)	3000.000 (at 3 dp)
Scientific	(S2)	3.00E+03 (at 2 dp)
Currency	(C2)	£3000.00
	(,3)	3,000.000 (triad separator and 3 dp)
General	(G)	3000
Percent	(P2)	300000.00% (fixed at 2 dp)

Note that the last of these, Percent, appears to be 2 decimal places in error. Wherever percentages are used in the Worksheet, they should be specified as decimals, so 15% should be entered as 0.15. So the example above shows 300000 percent, rather than 3000 percent on an entered value of 3000.

Note also that Currency format uses the default currency characters.

In the case of General format, the Worksheet attempts to display numbers in decimal format. If all of the digits of a number cannot be fitted into a cell, the number is displayed in scientific format. If the cell is less than five characters wide, then scientific format cannot be displayed and the cell is displayed filled with asterisks (*). To see the number displayed correctly, make the cells in that column wider using the Range Width command.

Before selecting the Range Format, position the cursor on one corner of the rectangular block of cells whose display format you want to change. Selecting the command displays the menu of formats:



When a format has been selected, the Worksheet enters the Range Painting mode.

When you have marked a range of cells, press **[RTN]**. All cells in the specified range will display their values in the chosen format.

If the specified range includes empty cells, a "display format" is created for them. If a number or formula is inserted in one of those cells later on, it will display the value in the chosen format.

See also the **Defaults** command described later in this chapter.

The Goto Command

The Goto command allows you to go directly to any cell in the grid, even those cells within an area set aside for titles. (See the section on **Titles** earlier in this chapter.)

When Goto is selected, the Worksheet prompts for the cell reference of the target cell.

You may now type the cell reference of any cell in the grid. The full extent of the grid is from cell A1 to cell DW255. When you press **[RTN]** the cursor is moved to the specified cell.

If titles are ON, and you specify a cell within the titles area, you may edit its contents, or the contents of any other cell in the titles area. If you then move out of the titles area by using the cursor keys, you will be unable to move back in.

The Defaults Menu

The Defaults menu contains commands concerned with setting a number of Worksheet defaults. The defaults are then applied to all Worksheet operations when setting up a new Worksheet after using the Files: New command or the Worksheet Erase command.

The commands allow the following default settings:

Feature	Valid Settings
Decimal Point	'.' ','
Text Alignment	Left, Right, Center
Column Width	1 to 34
Autoload Yes/No	Yes, No
Numeric Format	Fixed, Scientific, Currency, ',', General Percent
Currency Characters	Any three characters

The Defaults menu looks like this:

```
Defaults
Decimal Point     .
Text Align     Left
Width of Col      9
Autoload        Yes
Format            G
Currency          $
```

Decimal Point

This allows you to change the default display method for decimal points and triad separators.

The initial default decimal point character is the full stop, (.), and the default triad separator is the comma, (,). These may be swapped by selecting the Decimal Point command.

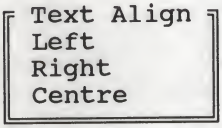
When the Defaults menu is displayed, the current Decimal Point character is shown alongside the Decimal Point command.

For example:

3,000.05	Decimal point = '.'
3.000,05	Decimal point = ','

Text Align

The Text Align command allows you to set the default text alignment for all cells. The Worksheet offers the allowed settings in the form of a menu:



After one of these items has been selected, all text typed in without a leading alignment character, will take on the selected justification.

Column Width

The Column Width command allows you to set the default column width for all columns which have not had their width set using the Range Width command.

When this command is selected, the Worksheet prompts for a number for the column width. You may enter a number between 1 and 34 (inclusive).

Autoload

The Autoload command allows you to switch on and off the Autoload facility in the Worksheet.

If this is on, the spreadsheet which was last worked on is loaded, if it is still available. When off, the current spreadsheet name is displayed but the file is not loaded.

Format

The Format command allows you to set the default display format for all cells in the grid. The selected display format will become the default for all numeric cells in the spreadsheet which have not had their formats set using the Range Format command.

For examples of the display formats, see the **Range Format** command earlier in this chapter.

Currency

The Currency command allows you to specify up to three characters (including spaces) used as the default monetary symbol. The character or characters are displayed with cells set to currency format.

See the **Range Format** command earlier in this chapter for further information.

Help

Help within the menu provides guidance through the menuing system, file handling and the Worksheet's @Functions. For more general help, press **[F2]** at any time while using the Worksheet.

THE WORKSHEET FUNCTIONS

A function is a special name, a key-word, which may be included in a cell formula. All functions start with the @ character. When a function is evaluated, it returns a value to the position in the formula in which it appears. Some functions, such as @PI and @TODAY just return a value which is then included as if it were entered as part of the formula. Other functions, such as @SIN(x) and @MOD(x,y), need to be given one or more arguments. Arguments are numbers or other objects which are passed to the function so that it can generate a result based on their value.

This section describes the Lotus 1-2-3 functions which the Worksheet recognizes. All arguments must be enclosed in brackets and, when a function requires more than one argument, separated by commas. Arguments may be literal values, or expressions in their own right. As usual, ranges are specified in the format (A1..C3). Function names and cell ranges may be given in upper or lower case letters - they are all converted to upper case on evaluation.

Argument Descriptions

In the following function descriptions, the arguments either take the form of literal values or are described in the following form:

exp	A numeric expression or a reference to a cell which contains a numeric expression
cell	A single cell reference in the format B2
range	A cell range in the format A1..C3
list	A list of items which all conform to the descriptions above of exp and range. Items must be separated by commas if the decimal point is a full stop, or by full stops if the decimal point is a comma.

Other argument descriptions used will conform to these rules.

The Functions

@ABS(exp)	Absolute value of exp
@ACOS(exp)	Arc cosine of exp
@ASIN(exp)	Arc sine of exp
@ATAN(exp)	Arc tangent of exp
@ATAN2(exp1,exp2)	Arc tangent of exp2/exp1
@AVG(list)	Arithmetic mean of values in list
@CHOOSE(exp,list)	Item exp from list
@COS(exp)	Cosine of exp
@COUNT(list)	Number of non-zero cells in list
@DATE(year,month,day)	Number of days since 30/12/1899
@DAY(exp)	Day of month (1 to 31)
@ERR	Generated error value
@EXP(exp)	The constant e, to the power exp

@FALSE	Returns 0.0
@FV(pmnt,int,term)	Future value of annuity
@HLOOKUP(exp,range,idx)	Horizontal lookup of a table
@IF(exp,then,else)	True/false conditional test and action
@INT(exp)	Integral portion of exp
@IRR(exp,range)	Internal rate of return
@ISERR(exp)	Tests for ERR
@ISNA(exp)	Tests for NA
@LN(exp)	Natural log of exp
@LOG(exp)	Logarithm (base 10) of exp
@MAX(list)	Maximum value in list
@MIN(list)	Minimum value in list
@MOD(exp1,exp2)	Remainder of exp1/exp2
@MONTH(exp)	Number of month (1 to 12)
@NA	Generated Not Available value
@NPV(int,range)	Net present value
@PI	Constant Pi
@PMT(prin,int,term)	Term payment calculator
@PV(pmnt,int,term)	Present value
@RAND	Random number (0 to 1)
@ROUND(exp1,exp2)	Rounds exp1 to exp2 decimal places
@SIN(exp)	Sine of exp
@SQRT(exp)	Square root of exp
@STD(list)	Standard deviation of values in list

@SUM(list)	Sum of values in list
@TAN(exp)	Tangent of exp
@TODAY	Number of days since 30/12/1899
@TRUE	Returns 1.0
@VAR(list)	Variance of values in list
@VLOOKUP(exp,range,idx)	Vertical lookup of a table
@YEAR(exp)	Year number, given a day number

See **Appendix B** for a list of the Lotus 1-2-3 functions which the Worksheet does not support.

@ABS(exp)

Returns the absolute value of exp. For example, the formula @ABS(-3.142) returns the value 3.142.

@ACOS(exp)

Returns the arc cosine of exp; the angle in radians whose cosine is exp.

@ASIN(exp)

Returns the arc sine of exp; the angle in radians whose sine is exp.

@ATAN(exp)

Returns the arc tangent of exp; the angle in radians whose tangent is exp.

@ATAN2(exp1,exp2)

Returns the arc tangent of exp1 divided by exp2; the angle in radians whose tangent is exp1 divided by exp2. The values of exp1 and exp2 are considered separately so that the returned value is in the correct quadrant.

@AVG(list)

Returns the arithmetic mean of the values in the list.

@CHOOSE(exp,list)

Returns the item at position exp in list. The items in list are numbered 0 to n, so the first item is item 0. For example, @CHOOSE(A1,2,3,4) will return 3 if 1 is in cell A1.

@COS(exp)

Returns the cosine of the angle exp. The value of exp is interpreted as a number of radians.

@COUNT(list)

Returns the number of items in the list which evaluate to numeric values, formulae or literal values (text or numbers). Ranges may be included in list. The value 0 is regarded as non-blank.

@DATE(year,month,day)

Returns the number of days between 30 December 1899 and the given date.

@DAY(exp)

Given a number of days since 30 December 1899, @DAY returns the day of the month in which that day lies. For example, the formula @DAY(32929) returns the value 25 because 32929 days after 30 December 1899 is 25 February 1990.

@ERR

Returns a value interpreted as ERROR. For example, using the @IF function, the formula @IF(B2=0,@ERR,F7) returns ERR if the contents of cell B2 equals zero, and the contents of cell F7 otherwise. A cell may be tested for ERR by using the @ISERR function.

@EXP(exp)

Returns the value of the constant e raised to the power of exp.

@FALSE

Returns the value 0.0. Similarly, the function @TRUE returns the value 1.0. For example, the formula @IF(B2>0,@TRUE,@FALSE) would return 1.0 if the contents of cell B2 is greater than zero and returns 0.0 otherwise.

@FV(pmnt,int,term)

Returns the future value of an annuity based on the interest rate (int), the payment per period (pmnt) and the number of periods (term). The function is based on the formula:

$$@FV = payment * \frac{((1+interest)^{term})-1}{interest}$$

The interest rate is assumed to be the rate per period. In all of the functions, interest rates are assumed to be in decimal form, so a value of 0.115 represents an interest rate of 11.5%.

@HLOOKUP(exp,range,idx)

Performs a horizontal lookup on the range of cells range. The first row of the range must contain a number of comparison values. These must be in increasing order with no duplicates. The function determines the last cell in the first row of range whose value is less than or equal to exp. If exp is less than the first cell ERR is returned.
@HLOOKUP then returns the value of the cell which lies idx rows below it. Non-integral values of exp are truncated. If idx specifies a row below the given range, then ERR is returned. If idx is zero the top value in the column, ie in index value, is returned.

For example, in this spreadsheet:

	B	C	D	E
2	1	3	9	27
3	1	2	3	4
4	5	6	7	8
5	9	10	11	12

These values are returned:

Formula	Result
@HLOOKUP(1,B2..E5,3)	9
@HLOOKUP(8,B2..E5,2)	6
@HLOOKUP(28,B2..E5,1)	4
@HLOOKUP(0,B2..E5,2)	ERR

If idx is negative or greater than or equal to the number of rows in range then ERR is returned.

@IF(exp,then,else)

If the condition exp returns 1.0 (TRUE), the value of 'then' is returned, otherwise the value of 'else' is returned. For example, the formula @IF(B2>0,@PI,0) would return the value of Pi if the contents of cell B2 is greater than zero: and zero otherwise.

@INT(exp)

Returns the integral (whole number) part of exp. Negative numbers are rounded towards zero, so the formula @INT(-3.95) returns -3.

@IRR(exp,range)

Returns an approximate Internal Rate of Return (IRR) from a sequence of cash flows. The IRR is the interest rate which would give a net present value (NPV) of zero on the given cash flows. The argument exp is a guess at the result; range is the cell range containing the positive (in) and negative (out) cash flows.

Blank cells in range are taken as zero cash in or out.

For example, in this spreadsheet:

	B	C	D
2	0.5	-1500	
3		550	
4		550	
5		550	
6		550	
7		550	
8			

the formula @IRR(B2,C2..C7) would return 0.243191. Interest rates are returned as decimals. For example, 15% is returned as 0.15. The interest rate returned by @IRR is the interest rate per period.

@ISERR(exp)

Returns 1.0 (TRUE) if exp returns ERR, otherwise returns 0.0 (FALSE). For example, if cell F7 contains the formula @PI/0 (illegal division by zero) the formula @ISERR(F7) returns 1.0 (TRUE).

@ISNA(exp)

Returns 1.0 (TRUE) if exp returns NA, otherwise returns 0.0 (FALSE). For example, if cell B2 contains the formula @NA, a cell containing the formula @ISNA(B2) will return 1.0.

@LN(exp)

Returns the base e logarithm of exp.

@LOG(exp)

Returns the base 10 logarithm of exp.

@MAX(list)

Returns the greatest value in list.

@MIN(list)

Returns the least value in list.

@MOD(exp1,exp2)

Returns the remainder from exp1 divided by exp2.

@MONTH(exp)

Given exp, a number of days since 30 December 1899, returns the number of the month in which that day lies.

For example, the formula @MONTH(32929) returns 2 because the date that lies 32929 days after 30 December 1899 is 25 February 1990.

@NA

Returns a generated value representing Not Available, which appears right aligned in the cell as NA. For example, the formula @IF(B2>0,@NA,B7) returns NA if the contents of cell B2 is greater than zero and returns the contents of B7 otherwise.

@NPV(int,range)

Returns the Net Present Value (NPV) of a series of discounted cash flows (in range) calculated at a given interest rate (int) per period. The range may contain positive (incoming) and negative (outgoing) cash flows. Blank cells in range are permissible and equate to zero cash in and zero cash out.

For example, in this spreadsheet:

	B	C	D	E
2	0.0125	-2200		
3		550		
4		550		
5		550		
6		550		
7		550		
8				

representing an initial payment of 2200 followed by five receipts of 550 at a period interest rate of 1.25 percent, the formula @NPV(B2,C2..C7) would return an NPV of 444.256.

Interest rates should be entered as decimals. For example, 15% should be entered as 0.15.

@PI

Returns the value of the constant pi, i.e. 3.142...

@PMT(prin,int,term)

Term payment calculator. Returns the term payment per period on a principal (loan value) prin, at a period interest rate of int over term periods. In all of the functions, interest rates are assumed to be in decimal form, so a value of 0.115 represents an interest rate of 11.5%.

@PV(pmnt,int,term)

Returns the present value of an annuity, calculated from a payment per period of pmnt, at a period interest rate of int over term periods. For example, in this spreadsheet:

	B	C	D	E
2				
3		Payment	1.275	
4		Int	0.125	
5		Term	12	
6				

the formula @PV(D3,D4,D5) returns the value 7.718182.

In all of the functions, interest rates are assumed to be in decimal form, so a value of 0.125 represents an interest rate of 12.5%

@RAND

Returns a pseudo-random floating point number in the range 0.0 (inclusive) to 1.0 (exclusive). Note that a different value is returned every time the spreadsheet is recalculated.

@ROUND(exp1,exp2)

Returns the value of exp1 rounded to exp2 decimal places. Negative values of exp2 cause exp1 to be rounded to the nearest @ABS(exp2)^10.

Here are some example values returned by the @ROUND function:

Formula	Returns
@ROUND(12345.67899,-3)	13000
@ROUND(12345.67899,0)	12345
@ROUND(12345.67899,1)	12345.6
@ROUND(12345.67899,5)	12345.67899

@SIN(exp)

Returns the sine of the angle exp. The angle must be given in radians.

@SQRT(exp)

Returns the square root of exp.

@STD(list)

Returns the standard deviation of the values in list. Blank cells in list are ignored. If all cells in list are blank, 0 is returned.

@SUM(list)

Returns the sum of the values in list of cells.

@TAN(exp)

Returns the tangent of the angle exp. The angle must be given in radians.

@TODAY

Returns the number of days between 30 December 1899 and the current date. For example, if the current date stored in the Portfolio is 25 February 1990, the formula

@TODAY returns 32929, because on that date there are 32929 elapsed days since 30 December 1899.

@TRUE

Returns the value 1.0. Similarly, the function @FALSE returns the value 0.0. For example, the formula @IF(B2>0,@TRUE,@FALSE) would return 1.0 if the contents of cell B2 is greater than zero and the value 0.0 otherwise.

@VAR(list)

Returns the statistical variance of the items in list. If no cells exist in the references given in list, then ERR is returned.

@VLOOKUP(exp,range,idx)

Performs a vertical lookup on the range of cells range. The first column of the range must contain a number of comparison values. These must be in increasing order with no duplicates. The function determines the last cell in the first column of range whose value is less than or equal to exp. If exp is less than the first cell in the range ERR is returned. @VLOOKUP then returns the value of the cell which lies idx rows to the right of it. Non-integral values of exp are truncated. If idx gives a column over the right hand edge of the range, then ERR is returned. In the following example, if idx were to be greater than 3 then ERR would be returned.

For example, in this spreadsheet:

	B	C	D	E
2	1	1	5	9
3	3	2	6	10
4	9	3	7	10
5	27	4	8	12

These are the values returned:

Formula	Result
@VLOOKUP(1,B2..E5,3)	9
@VLOOKUP(8,B2..E5,2)	6
@VLOOKUP(28,B2..E5,1)	4
@VLOOKUP(0,B2..E5,2)	ERR

If idx is negative or greater than or equal to the number of columns in range then ERR is returned.

@YEAR(exp)

Given exp, a number of days since 30 December 1899, returns the year in which that day lies. For example, the formula @YEAR(32929) returns 90 because the date which falls 32929 days after 30 December 1899 is 25 February 1990.

APPENDIX A

PORTFOLIO FILE FORMATS

The Portfolio applications which use files; the Editor, Worksheet, Diary and Address Book, each store data in a particular format. The file formats are described in this appendix.

The Address Book

Address Book files are by default given the file extension .ADR and they are stored as a list of records. Each record has the following format:

RECORD 1 LINE 1
RECORD 1 LINE 2
RECORD 1 LINE 3

RECORD 2 LINE 1
etc

Each line ends with a CR-LF. The first line is loaded into the first line of the address record, and used when the Address Book is in Line mode. (See **Chapter 4** for further details of Address Book modes.)

Each record is divided from the next by a line consisting of just a CR-LF pair.

Blank lines in an individual record are stored as space followed by CR-LF.

The Diary

Diary files are by default given the file extension .DRY. The only Diary file which will cause alarms to be sounded is the file DIARY.DRY in the directory C:\SYSTEM.

Each Diary entry and date is stored on a separate line.

Dates are always stored in the format dd/mm/yy, whatever country code is included in your CONFIG.SYS file.

The following is an extract from a Diary file, showing the repeater characters and the @ character used to signify an entry with an alarm:

```
  6/04/89
n@ 07:00 Wake-Up Alarm
w  09:30 Development Meeting
d  13:30 Lunch
w  19:30 Night Course
  7/04/89
w  19:30 Squash at Wimbledon
  8/04/89
w  09:00 Windsurfing
  25/02/90 Birthday
y  09:00 Champagne Breakfast
```

The Editor

Editor files are by default given the file extension .TXT.

Editor files are stored in plain ASCII format. Any control characters entered into the Editor are stored as given.

Word-wrapped lines are terminated by a space followed by CR-LF, lines with a hard (user inputted) carriage return have no leading space.

Each paragraph ends with a CR-LF pair, at the line length in force when the file was saved.

Presses of **[RTN]** are stored as a CR-LF pair.

If a word contains a hyphen (for example self-test) the Editor will word wrap between the hyphen and the second word if the word is at the end of a line. In the file, however, the word is stored without a word wrap.

The Worksheet

Worksheet files are stored in Lotus 1-2-3 format, release 1A with a .WKS extension.

APPENDIX B

THE WORKSHEET

Unsupported LOTUS 1-2-3 Functions

The following functions supported by Lotus 1-2-3 are not supported by the Portfolio spreadsheet:

The database functions @DAVG, @DDB, @DCOUNT, @DMAX, @DMIN, @DSTD, @DSUM, @DVAR

The string handling functions @CHAR, @CLEAN, @CODE, @EXACT, @FIND, @ISNUMBER, @ISSTRING, @LEFT, @LENGTH, @LOWER, @MID, @N, @PROPER, @REPEAT, @REPLACE, @RIGHT, @S, @STRING, @TRIM, @UPPER, @VALUE

The functions @CELL, @CELLPOINTER, @COLS, @CTERM, @HOUR, @MINUTE, @ROWS, @RATE, @SECOND, @SLN, @SYD, @TERM, @TIME.

If a spreadsheet containing any of these functions is loaded into the Worksheet, the Worksheet will display a warning saying "Some data cannot be loaded". Each formula which contained an unsupported function is converted into the function @ERR.

APPENDIX C

PORTFOLIO DOS

Differences Between Portfolio DOS and MS-DOS

For those familiar with MS-DOS, the following are the main differences between the operating system on the Portfolio and Microsoft MS-DOS:

Internal Commands

The operating system on the Portfolio is contained in the system ROM and is not loaded into RAM on booting. All commands therefore are internal, whereas MS-DOS has a mixture of internal and external commands. For example, DIR is internal in both cases; FORMAT is an internal command in Portfolio DOS but an external program, FORMAT.COM or FORMAT.EXE in MS-DOS.

Off, App, Run, and Help

Portfolio DOS has four extra commands; Off, which is used to switch the system to standby, app to run the applications, run to execute specially written software directly off cards, and Help which lists all DOS commands. All four commands may be used in batch files.

APPENDIX D

ERROR MESSAGES

There are a number of error messages which may be displayed on the Portfolio screen, either in a window or otherwise, depending on the activity being carried out. This appendix lists the messages and their meanings. If an error message is displayed in a window, press **[ESC]** to return to the previous activity.

ACCESS DENIED

An attempt has been made to delete, or write to a file which is read only.

ALARMS WON'T RING - MUST BE IN c:\SYSTEM\DIARY.DRY

This is a warning and it is displayed when the current Diary file contains alarms but isn't being saved to c:\system\diary.dry. If you want the alarms to ring, save the file using the given filename.

BAD COMMAND OR PROGRAM NOT FOUND

A non-existent DOS command has been typed. Check the spelling if you are typing an internal command. If you are trying to run a program or a batch file, ensure it is either in the current directory or the path has been set to where the file is.

BAD FILENAME

A filename has been specified which is longer than the maximum length, or a directory listing was requested with a wildcard as part of a directory. Check the drive, path and name given and reduced the number of characters if necessary.

BAD NUMBER

Some input was given which either isn't a number when one was expected, or a number was given which is out of the expected range. For example, typing "hello" for the Address Book dial prefix, or asking the Worksheet or Calculator to display 99 decimal places. Type a number or ensure the number given is in the correct range.

BASIC NOT AVAILABLE

A user program has attempted to invoke a ROM based BASIC interpreter which does not exist on the Portfolio.

CANNOT CREATE FILE

The file specified for output redirection is missing or invalid. Ensure the filename given contains no invalid characters.

CANNOT MOVE - TARGET DAY IS OCCUPIED

In the Diary, an attempt has been made to move a date with associated text to a date which already has some text. Move the entry to another date, or merge the two pieces of text on your chosen date.

CARD ACCESS

A memory card was removed from a drive at the instant the Portfolio was accessing it. Control returns to DOS. It is not recommended that memory cards are removed while they are being accessed.

CHECKSUM ERROR

The file transfer part of Setup incorrectly received some data. Check the machines are connected correctly and try again.

COMMUNICATIONS ERROR

There was an error in the cable link while a file was being transferred using Setup. Ensure the cable is securely connected and try again. This error also occurs when trying to initialize the serial port when no communications unit is attached.

CORRUPT FILE

The Worksheet was told to load a file which doesn't conform to the LOTUS 1-2-3 release 1a file format. Save the file again if it came from another program.

DATA ERROR READING (WRITING) DRIVE <d> ABORT, RETRY, IGNORE?

This message appears in DOS when the memory card in the Portfolio's drive does not have a valid format or the card has been corrupted. The card may not have been formatted with the DOS FORMAT command. Press A to return to DOS. If the error occurs again immediately, press I to ignore the error. DOS will print ENTER NEW DRIVE.

DATE REPEAT SKIPPED AS TARGET DAY OCCUPIED

The Diary was processing repeating date entries when automatically loading a Diary file and it tried to move a date entry into the future where another date entry exists. The date repeat was moved further into the future until a free date was found.

DEVICE READ ERROR

A memory card was removed while an application was reading from it, or an application was told to load a file from a non-existent sub-directory. Check the memory card is in properly, and the path specification is correct.

DEVICE WRITE FAILURE

An unsuccessful attempt has been made to write to a memory card or internal disk. If the failure is while writing to c: (the internal disk), it could either be full, or the sub-directory does not exist. Additionally, if writing to a card, it may be incorrectly inserted. Remove the card, replace carefully and try again.

DIRECTORY EXISTS OR CANNOT BE CREATED

An attempt has been made to create a directory which already exists. Check that no file with the given name exists.

DIRECTORY NOT FOUND OR NOT EMPTY

An attempt has been made to remove a directory from a drive, but the directory either cannot be found or is not empty. Check the name given or ensure that no files exist in the directory. This error will also occur if an attempt is made to remove the current sub-directory.

DISK FULL

A memory card or the internal RAM drive is full when trying to copy files.

DISK IS WRITE PROTECTED

The card you are trying to format has the write protect switch set to ON.

DIVIDE BY ZERO

May occur if an external program attempts to divide a number by zero or generates an internal overflow. Try running the program again. Failing that, press **[CTLR] [ALT] [DEL]** to reset the Portfolio.

DRIVE IN SEARCH PATH NOT FOUND

An unavailable drive has been used as part of the DOS search path.

ENTER NEW DRIVE

DOS cannot read any information from the current drive. Change to another drive, for example C:

ENVIRONMENT FULL

The DOS environment is full. Reduce the number of settings before attempting to set any fresh settings, a new path or a prompt.

EXEC ERROR

An executable file (.EXE) has been corrupted, or there is not enough memory to run the program. Recopy the file or reduce the amount of memory used.

FAILED TO RUN PROGRAM

An Editor add-in program could not be loaded and executed because the file is corrupt or there is insufficient memory.

FILE NOT FOUND

A file specified in a DOS command has not been found or an application was told to load a non existent file. Check the filename carefully, or if in an application, ask for a directory listing by the use of a wildcard.

FOR CANNOT BE NESTED

The DOS FOR command cannot appear as part of another FOR command.

FORMAT ERROR

The DOS FORMAT command failed to correctly format a memory card. Remove the card, carefully reinsert it and try again.

FORMULA TOO LONG

A formula has been typed into the Worksheet which exceeds the allocated space. Split the formula into two and use two cells.

GENERAL ERROR <n> READING (WRITING) DRIVE <d> ABORT, RETRY, IGNORE?

This error occurs when a memory card has been partially corrupted. See DATA ERROR for more information.

HALT BATCH JOB (Y/N)?

A batch file was terminated by use of Control C (**[CTRL] [C]**) or Control Break (**[FN] [B]**). If Y **[RTN]** is typed, the current batch job will be stopped. If N **[RTN]** is typed the batch file will proceed to the next command.

ILLEGAL CELL REFERENCE

A cell reference was typed into the Worksheet which is either badly formed or exceeds the spreadsheet area. Refer to the cell reference section of **Chapter 9**.

ILLEGAL CHARACTER

This occurs if a character which the Calculator doesn't recognize is entered while editing the tape. Delete the offending character.

ILLEGAL DATE

An illegal date was given to the DOS command DATE or to the Diary. Use the format as specified by the COUNTRY command in your CONFIG.SYS file. See **Chapter 1** for further details of this file.

ILLEGAL TIME

An illegal time was given to the DOS command TIME or to the Diary. The time must be given in 24 hour format, hh:mm or hh.mm.

INSERT DISK WITH BATCH FILE

A batch file was started from a memory card, the card removed from the drive and must be re-inserted for the file to terminate correctly. Or, the batch file was deleted from within itself. Press **[CTRL] [C]** to terminate the batch file.

INTERNAL DISK ERROR

The Portfolio failed to format the internal RAM drive during initialisation. Perform a cold start by removing the batteries, any peripherals and press the reset button.

INVALID CHARACTERS IN LABEL

A label was entered in the DOS LABEL command containing spaces or other characters which cannot form part of a normal filename.

INVALID DIRECTORY

An invalid directory name was specified as part of the DOS CD command or the DOS DIR command. Check that the directory name has been correctly typed.

INVALID DRIVE

A drive which doesn't exist in the system was given as a parameter to one of several DOS commands. If you have device commands in your CONFIG.SYS file, ensure that the devices load correctly when the Portfolio boots up.

INVALID PARAMETER

A parameter to a DOS command is incorrect. For example, DIR /R. This error also occurs when the Worksheet was expecting a parameter of a certain type to a function. Check the parameters are in the correct order and they are of the expected types.

LABEL NOT FOUND

A GOTO command was found in a batch file but the label associated with it doesn't appear in that batch file. Check the label spelling.

LOW BATTERY

The battery power has become too low to operate the Portfolio. Refer to the CHANGING BATTERY instructions in **Chapter 1** for further information.

MAX SIZE ALLOWED IS <n>K

An attempt was made to create a RAM drive of greater than the maximum size. Specify a smaller number to FDISK and retry.

MEMORY FULL

An external program was invoked which requires more memory than is currently available, or a large file was loaded into an application and it ran out of memory. If you have memory resident programs, remove them to free some memory. Otherwise, split your application data file into several smaller ones. If this message appears from within an application, more memory can be obtained by deleting the UNDELETE buffer and the CLIPBOARD. These are stored in undelete.dat and clipbord.dat in C:\SYSTEM. See **Chapter 3** on the CLIPBOARD and UNDELETE sections for more information.

MINIMUM DRIVE SIZE <n>k

An attempt was made to create a RAM drive using the DOS FDISK command of less than the minimum size. Increase the value given to FDISK.

MISMATCHED BRACKETS

In the Worksheet or the Calculator, an expression has been entered which has more open brackets than closed brackets or vice versa. Carefully check all the open brackets to make sure there is a corresponding closing bracket.

MISSING OPERATOR +-*/^!

The Calculator was expecting an operator in the indicated part of the calculation. Type one of the operators, Plus, Minus, Multiply, Divide, power or Factorial.

MONTHLY REPEAT HAS BEEN MOVED DUE TO EARLIER END OF MONTH

A monthly repeat in the Diary was set near the end of the month. It has been moved nearer the beginning of the month since the specified day doesn't exist. This will occur in February if a monthly repeat is set on the 31st of January.

MUST SPECIFY ON OR OFF

The DOS VERIFY or DOS BREAK command was used with some parameter other than ON or OFF.

MUST SPECIFY SOURCE AND TARGET FILES

Make sure you have specified two different file names when using the DOS COPY command. For example:

```
COPY AUTOEXEC.BAT  or
COPY AUTOEXEC.BAT AUTOEXEC.BAT
```

(assuming AUTOEXEC.BAT exists) will both produce this message.

NO PATH

The DOS PATH command was typed with no parameters and there is currently no search path. Set a path using the PATH or SET commands.

NOT READY ERROR READING (WRITING) DRIVE <d> ABORT, RETRY, IGNORE?

This message appears in DOS when there is no memory card in the Portfolio's drive or the machine powered down due to a low battery while accessing a memory card. See DATA ERROR for more information.

OUT OF RANGE

This error can occur under various different circumstances, generally where a number has been given to an application which is too large or small. For example, setting a column width in the Worksheet that is greater than 34 will produce this message.

RAM CHECK FAILURE

The system has failed to start due to a hardware fault. Remove the batteries, press reset, and try again.

ROOT DIRECTORY FULL

The root directory on a drive is full. Delete some files to make room, use another drive or place the file in a subdirectory.

SECOND DRIVE NOT INSTALLED

An attempt has been made to FORMAT drive B:, the optional second memory card drive, when the drive is not attached to the Portfolio.

SOME ALARMS ARE SET IN THE PAST AND SO WILL NOT GO OFF

When saving the current Diary to C:\SYSTEM\DIARY.DRY containing alarms, some of those alarms are set to before the current date. If this is unexpected, check that the Portfolio's date is correct with the DOS DATE command.

SOME DATA CANNOT BE LOADED

The Worksheet was asked to load a file containing LOTUS release 2 functions. Refer to **Appendix B** for a list of unsupported functions.

STACK FULL

An attempt was made to perform a calculation which was too complex for the Portfolio. Break down the calculation into two smaller parts and try again.

STRING NOT FOUND

An attempt was made to find a piece of text which doesn't exist in the direction of the search. Terminate the text string with cursor up to search backwards, or cursor down to search forwards.

SYNTAX ERROR

Incorrect syntax was used in a DOS command, for example the COPY command, or a badly formed calculation was given to the Worksheet or Calculator. If this message occurs while editing the tape in the Calculator, try pressing ^L to delete the current tape line, then pressing **[RTN]**.

TARGET FILE EXISTS

An attempt was made to rename a file with a name which is already in use on the specified drive and directory.

TARGET IS OVER THE EDGE

The COPY command in the Worksheet was used to specify a block of cells, which, when copied to the specified target block would wrap over the right or bottom edge of the Worksheet space. Copy a smaller block, or copy it to a different cell.

TIMEOUT
LINK BROKEN

The internal file transfer facility in Setup didn't get any response from the other computer. Try reconnecting the cable and issue the command again.

TOO MANY COLS OR ROWS

This error occurs when inserting rows or columns in the Worksheet. If some rows or columns are inserted, there must be a corresponding number of empty rows or columns at the bottom or right of the spreadsheet.

UNRECOGNIZED COMMAND IN CONFIG.SYS

The CONFIG.SYS file contains an entry not understood by DOS. See **Chapter 1** for valid CONFIG.SYS file settings.

WRITE PROTECT ERROR WRITING DRIVE <d> ABORT, RETRY, IGNORE?

An attempt has been made to format, write to a file or delete a file from a memory card whose write protect switch is set to ON. Set the write protect switch to off, or use another memory card which isn't protected. Press A to abort the operation and return to DOS. If the write protect switch is altered, press R to retry the operation. Pressing I will only produce the error again.

WRONG NUMBER OF PARAMS

A DOS command or a spreadsheet function wasn't given the correct number of parameters. Supply the correct number of parameters. If you are in the Worksheet, check that you are using the correct parameter separator. This is a comma when the decimal point is a full stop and vice versa.

*** ALL FILES ON C: WILL BE LOST *** CONTINUE (Y/N)?

The DOS FDISK command was typed which re-formats the Portfolio's internal RAM disk. Make ABSOLUTELY certain no files exist on the RAM disk, drive C:, which you want to keep. It is not possible to recover any files after answering YES to this question.

**** SYSTEM ERROR ** SORRY!**
NOTE WHAT YOU LAST DID;
ESC WILL ATTEMPT RECOVERY.
QUIT & SAVE IF POSSIBLE

This error is exceptionally rare! It only occurs in the built in applications and is due to a software error. Pressing **[ESC]** until the message goes away is the best way to deal with this error. If at all possible, save the file as soon as you can, quit the application and return to DOS. Re-enter the application and try and load the file which you have just saved. If the program does not recover, press **[CTRL] [ALT] [DEL]**.

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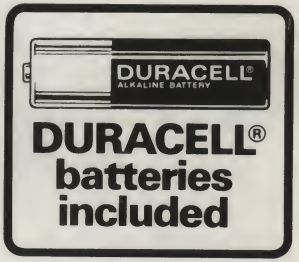
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